

The Gauteng provincial biodiversity law: a critical evaluation

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TABLE OF CONTENTS

<i>List of abbreviations</i>	<i>i</i>
<i>Abstract/ Opsomming.....</i>	<i>iv</i>
<i>Keywords</i>	<i>vi</i>
1 Introduction	1
1.1 Background	1
2 Provincial responsibilities in terms of biodiversity law	6
2.1 Introduction	6
2.2 Environmental law framework	7
2.2.1 Introduction	7
2.2.2 The Constitution of the Republic of South Africa, 1996.....	7
2.2.3 Biodiversity legislative competence under the Constitution	8
2.3 Government institutions responsible for the development of biodiversity law.....	9
2.3.1 National government	9
2.3.2 Provincial government	10
2.3.3 Local government.....	10
2.4 National Environmental Management Act 107 of 1998	11
2.4.1 Introduction	11
2.4.2 Environmental management principles in the NEMA.....	12

2.4.3	<i>Other provisions in the NEMA relevant to biodiversity</i>	<i>14</i>
2.5	<i>Biodiversity-specific national policy and law</i>	<i>16</i>
2.5.1	<i>White Paper on the Conservation and Sustainable Use of South Africa's Biological Diversity of 1997</i>	<i>16</i>
2.5.2	<i>National Environmental Management: Biodiversity Act 10 of 2004</i>	<i>18</i>
2.5.3	<i>Substantive matters in the Act and the role of provincial governments...</i>	<i>19</i>
2.5.4	<i>Other relevant biodiversity laws and policies</i>	<i>27</i>
2.6	<i>Concluding remarks</i>	<i>30</i>
3	<i>The biodiversity of the Gauteng Province</i>	<i>32</i>
3.1	<i>Introduction.....</i>	<i>32</i>
3.2	<i>Landscape, climate and vegetation of Gauteng</i>	<i>32</i>
3.3	<i>Species richness.....</i>	<i>33</i>
3.4	<i>Anthropogenic impacts to biodiversity in Gauteng</i>	<i>35</i>
3.4.1	<i>Impact of high human population.....</i>	<i>35</i>
3.4.2	<i>Habitat destruction and fragmentation.....</i>	<i>36</i>
3.4.4	<i>Over-harvesting of biodiversity resources.....</i>	<i>37</i>
3.4.5	<i>Alien and invasive species</i>	<i>38</i>
3.4.6	<i>Genetically modified organisms</i>	<i>39</i>
3.4.7	<i>Climate change</i>	<i>39</i>
3.4.8	<i>Pollution.....</i>	<i>40</i>
3.5	<i>Importance of biodiversity protection in Gauteng.....</i>	<i>41</i>

3.6	<i>Concluding remarks</i>	<i>41</i>
4	<i>Biodiversity law of Gauteng.....</i>	<i>43</i>
4.1	<i>Introduction</i>	<i>43</i>
4.2	<i>Nature Conservation Ordinance 12 of 1983</i>	<i>44</i>
4.2.1	<i>Overview</i>	<i>44</i>
4.3	<i>The nature conservation approach in the Ordinance</i>	<i>45</i>
4.3.1	<i>Administration</i>	<i>45</i>
4.4	<i>Conservation division, boards and committees.....</i>	<i>45</i>
4.5	<i>Establishment of nature reserves.....</i>	<i>45</i>
4.6	<i>Specific nature conservation aspects in the Ordinance</i>	<i>46</i>
4.6.1.	<i>Wild animals.....</i>	<i>46</i>
4.6.2.	<i>Fisheries</i>	<i>47</i>
4.6.3.	<i>Plants</i>	<i>48</i>
4.6.4.	<i>Cave environments.....</i>	<i>48</i>
4.6.5.	<i>International obligations</i>	<i>49</i>
4.6.6.	<i>Concluding remarks.....</i>	<i>50</i>
4.7	<i>The Gauteng Nature Conservation Bill, 2014</i>	<i>51</i>
4.7.1	<i>Introduction</i>	<i>51</i>
4.7.2	<i>Scope and objectives</i>	<i>52</i>
4.7.3	<i>The Bill's approach to biodiversity conservation</i>	<i>52</i>
4.7.3.1	<i>Administration of the Bill.....</i>	<i>52</i>
4.7.3.2	<i>Nature conservators</i>	<i>53</i>
4.7.4	<i>Specific biodiversity conservation aspects in the Bill.....</i>	<i>54</i>

4.7.4.2	<i>Hunting profession</i>	57
4.7.4.3	<i>Regulation of zoos</i>	58
4.7.4.4	<i>Protected and indigenous plants</i>	58
4.7.4.5	<i>Aquatic biota and aquatic systems</i>	60
4.7.4.6	<i>Invertebrates</i>	62
4.7.4.7	<i>Caves and cave environments</i>	63
4.7.5	<i>Concluding remarks</i>	64
5	Conclusion and recommendations.....	66
5.1	<i>Background</i>	66
5.2	<i>Summary of findings.....</i>	70
5.3	<i>Recommendations</i>	76
5.4	<i>Concluding remarks</i>	78
	BIBLIOGRAPHY.....	79

List of abbreviations

AIS	Alien and Invasive Species
BMPs	Biodiversity Management Plans
CBD	Convention on Biological Diversity
CILSA	Comparative and International Law Journal of Southern Africa
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CPA	Criminal Procedure Act 51 of 1977
DEA	Department of Environmental Affairs
DEAT	Department of Environmental Affairs and Tourism
EA	Environmental Authorisation
EIA	Environmental Impact Assessment
ELI	Environmental Law Institute
EMF	Environmental Management Framework
EMI	Environmental Management Inspector
EMP	Environmental Management Plan
GCIS	Government Communication and Information System
GCRO	Gauteng City Region Observatory
GDARD	Gauteng Department of Agriculture and Rural Development

GHG	Greenhouse Gases
GMO	Genetically Modified Organisms
IEM	Integrated Environmental Management
IUCN	International Union for Conservation of Nature
MEC	Member of the Executive Committee
NBF	National Biodiversity Framework
NCD	Nature Conservation Division
NEMA	National Environmental Management Act 107 of 1998
NEMBA	National Environmental Management: Biodiversity Act 10 of 2004
NEMPAA	National Environmental Management: Protected Areas Act 57 of 2003
PAJA	Promotion of Administrative Justice Act 3 of 2000
PELJ	Potchefstroom Electronic Law Journal
PH	Professional Hunter
SAfrJSci	South African Journal of Science
SAJELP	South African Journal of Environmental Law and Policy
SANBI	South African National Biodiversity Institute
SEMA	Specific Environmental Management Acts
TOPS	Threatened or Protected Species

WFC	World Future Council
WWF	World Wildlife Fund
UN	United Nations
UNEP-WCMC	United Nations Environment Programme World Conservation Monitoring Centre

Abstract

South Africa's rich biodiversity is one of its most celebrated assets and before the *Constitution of the Republic of South Africa, 1996 (Constitution)*, little uniformity prevailed across the country concerning its conservation. Section 24 of the *Constitution* is dedicated to the environment and affords everyone a right to an environment that is not harmful. It further demands that government put legislation and other measures in place to protect the country's biodiversity. Furthermore, Schedule 4A specifically mandates the national and provincial spheres of government to legislate on matters of biodiversity. The obligations placed on the state by the *Constitution* and the ratification of biodiversity agreements further resulted in the enactment of national acts and policies aimed at standardising regulatory measures pertaining to, *inter alia*, biodiversity.

The *National Environmental Management: Biodiversity Act 10 of 2004 (NEMBA)* is the national biodiversity-specific law. Before the NEMBA there was no uniform legal standard for biodiversity conservation in the country, and each province had its conservation law, in the form of an Ordinance. The NEMBA brought a standardised approach to biodiversity conservation and imposes duties on all spheres of government. One of the implications of the NEMBA is that each province may have to enact biodiversity law albeit in conformance with national law.

Situated against the background above, the Gauteng provincial legislature recently introduced the *Gauteng Nature Conservation Bill, 2014* which is aimed at replacing the *Gauteng Nature Conservation Ordinance 12 of 1983*. This study considers the duties of provincial authorities (specifically the Gauteng Province) emanating from the NEMBA as national biodiversity law and at how these duties are reflected in the Gauteng Nature Conservation Bill.

Opsomming

Suid-Afrika se ryk biodiversiteit is een van die land se mees gevierde bates. Voor die inwerkingtreding van die *Grondwet van die Republiek van Suid-Afrika*, 1996 (die *Grondwet*), was daar egter min eenvormigheid betreffende die bewaring van die land se biodiversiteit. Artikel 24 van die Grondwet word gewy aan die omgewing en gee aan elkeen 'n reg tot 'n omgewing wat nie skadelik is nie. Verder vereis dit dat die regering wetgewing en ander maatreëls daar moet stel om die land se biodiversiteit te beskerm. Skedule 4A gee spesifiek 'n mandaat aan die nasionale en provinsiale sfere van regering om wetgewing daar te stel om biodiversiteitsbewaring te reguleer. Die grondwetlike verpligtinge van die regering en die ratifisering van biodiversiteitsooreenkomste het verder gelei tot nasionale wetgewing en beleid wat daarop afgestem is om regulering ten aansien van die omgewing, wat ook biodiversiteitsbewaring insluit, te standaardiseer.

Die *National Environmental Management: Biodiversity Act* 10 van 2004 (NEMBA) is die nasionale biodiversiteit-spesifieke wet. Voor die NEMBA was daar geen uniforme standaard vir biodiversiteitsbewaring in die land nie, en elke provinsie het sy eie bewaringswetgewing gehad in die vorm van 'n Ordonnansie. Die NEMBA het 'n gestandaardiseerde benadering tot biodiversiteitsbewaring tot stand gebring, en plaas verpligtinge op al drie die sfere van die regering. Een van die implikasies van die NEMBA is dat elke provinsie sy eie biodiversiteitswetgewing sal moet ontwikkel maar steeds in lyn met nasionale wetgewing.

Teen hierdie agtergrond het die Gautengse provinsiale wetgewer onlangs die *Gauteng Natuurbewaring Wetsontwerp*, 2014 vrygestel, wat daarop gemik is om die huidige *Gauteng Natuurbewaring Ordonnansie* 12 van 1983 te vervang. Hierdie studie ondersoek die verpligtinge van provinsiale regerings (spesifiek die Gauteng Provinsie) soos wat dit uit NEMBA voortspruit, sowel as die wyse waarop hierdie verpligtinge in die Wetsontwerp aangespreek word.

Keywords

Biodiversity conservation, Gauteng biodiversity, Gauteng Nature Conservation Bill

Sleutelwoorde

Biodiversiteitsbewaring, Gauteng biodiversiteit, Gauteng Natuurbewaring Wetsontwerp

1 Introduction

1.1 Background

Biodiversity has been defined as the sum of all living organisms. This refers to animals, plants, their habitats and the greater environment, be it aquatic or terrestrial, in which they occur, the ecosystems, ecological processes, the diversity of species, their genetic variety and the evolutionary processes responsible for this diversity.¹ In addition, the broader definition of biodiversity includes reference to human beings and their built environment.²

It can be argued that in nature, the natural processes responsible for shaping the environment have long been occurring, and generally these processes occur at a gradual rate.³ However, anthropogenic activities have negatively impacted on natural processes in a manner that has been detrimental to the environment.⁴ These anthropogenic impacts have led to a situation where natural resources are being consumed and exhausted.⁵ Such impacts are also evident in the overall decline in biodiversity, ecological degradation, a breakdown in ecosystem functioning, habitat fragmentation and loss.⁶ Furthermore, there is environmental pollution, climate change, species extinction and the spread of invasive

¹ Paterson "Biodiversity" 714; Glazewski *Environmental Law* 257; Kidd *Environmental Law* 97; also see s 1 of the *National Environmental Management: Biodiversity Act* 10 of 2004 (hereunder the NEMBA). In this contribution "biodiversity", "nature" and "natural environment" will be used interchangeably.

² Damm *Conservation Game* 27; also see *BP Southern Africa (Pty) Limited v MEC for Agriculture, Conservation, Environment and Land Affairs* 2004 5 SA 124 (W) (hereafter BP Southern African). The court stated that reference to the environment can no longer be restricted purely to nature because man has changed most of it from its original state (para 6).

³ Brewer *Science of Ecology* 647; Kotzé 2012 http://dspace.nwu.ac.za/bitstream/handle/10394/8575/Kotz%C3%A9_LJ.pdf?sequence=1 2-6; WWF *Living Planet Report 2014* 8, 65.

⁴ Beyerlin and Marauhn *International Environmental Law* 255; WWF *Living Planet Report 2016* 50; also see Goudie *Human Impact on the Natural Environment* 8-44. Anthropogenic means caused by people (anthropos + genesis). The term is used with reference to changes in nature caused by people. Many natural processes on earth such as temperature, rainfall, natural fires, the flow of rivers etc. have been affected by people, and in most cases the environment has been changed. For example, in rain forests fires are frequently set as a means of deforestation for agricultural purposes, often leading to soil erosion and the loss of species.

⁵ Cullinan *Wild Law* 15-22. Natural resources are often used up faster than the rate at which they can be naturally replenished. Overall, human beings are destroying natural process which keep them alive.

⁶ Beyerlin and Marauhn *International Environmental Law* 255; Brewer *Science of Ecology* 647.

and alien species, to mention but a few of the depredations our environment is currently experiencing.⁷ Globally, the negative impacts on biodiversity are recognised as a threat to the health, prosperity and future of humanity.⁸ It is this recognition that has in recent years paved the way for global cooperation towards developing regulatory frameworks for biodiversity conservation.⁹

South Africa is renowned for its biotic richness and is often celebrated as one of the most biologically diverse countries in the world.¹⁰ This rich biodiversity is important not only to South Africa but it is also to Africa as a whole.¹¹ However, recent assessment shows that the country's biodiversity and natural resources are under threat and are declining.¹² Globally, increased urbanisation has resulted in a large portion of the world's population living in and around cities.¹³ This has led to overall negative impacts on the natural environments and pressure on urban biodiversity.¹⁴ Gauteng is the smallest province in South Africa, and at the same time it is the most developed and urbanised province.¹⁵ In addition, Gauteng is the economic capital of the country, with the highest human population, which is increasing every year, and putting more pressure on the biodiversity of the province.¹⁶

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- ⁷ Kotzé 2012 http://dspace.nwu.ac.za/bitstream/handle/10394/8575/Kotz%C3%A9_LJ.pdf?sequence=1 8-13. The drivers of environmental degradation are linked to human population increase in most of the world, which increase is affiliated with activities that degrade the environment, such as the release of greenhouse gases and other pollutants into the natural environment.
- ⁸ WWF *Living Planet Report 2014* 8-13. The authors point out that human beings are dependent on biodiversity for the essential services that support life such as water, fresh air, food etc.
- ⁹ Beyerlin and Marauhn *International Environmental Law* 255; Holder and Lee *Environmental Protection* 211.
- ¹⁰ Kidd *Environmental Law* 98.
- ¹¹ Damm *Conservation Game* 220-223.
- ¹² Katzschner "Planning Perspectives" 421; Paterson "Biodiversity" 711.
- ¹³ Du Toit and Cilliers "Urban Ecology" 753. Urbanisation is the expansion of the man-made or built environment, with its associated human activities.
- ¹⁴ WWF *Living Planet Report 2014* 13; Du Toit and Cilliers "Urban Ecology" 753-754; Culwick *et al* 2016 http://www.gcro.ac.za/media/reports/GCRO_Green_Assets_Report_Digital_version_book.pdf 008.
- ¹⁵ SANBI *Biodiversity Mainstreaming Toolbox* 45; also see Statistics South Africa 2015 <http://www.statssa.gov.za/?p=5217>.
- ¹⁶ DEAT *National Biodiversity Strategy* 111; GDARD *Gauteng State of Environment Report* (hereafter *Gauteng State of Environment*) 7, 12, 77; GCIS *Pocket Guide* 10, 161. Gauteng contributes over 50% of the country's GDP. This means that most of the country's economic activities are in Gauteng.

It has been pointed out that prior to the constitutional era, South Africa's biodiversity conservation legislation was largely fragmented, uncoordinated and with little legislative uniformity.¹⁷ The *Constitution of the Republic of South Africa*, 1996 (hereafter the Constitution) brought about fundamental changes in the country's laws and environmental governance arrangements, including for biodiversity conservation.¹⁸ The *Constitution* includes a right dedicated to the environment (section 24) and mandates the state to give effect to it (section 7(2)). This constitutional development resulted in an array of environmental laws and policies being developed and promulgated over the years.¹⁹

The *National Environmental Management Act* 107 of 1998 (hereafter NEMA) lays the foundation for meeting the duties emanating from the constitutional environmental right. It does so through principles which guide all the specific environmental management Acts (hereafter SEMAs)²⁰ of which the *National Environmental Management: Biodiversity Act* 10 of 2004 (hereafter NEMBA) is the chief law for biodiversity. The NEMBA sets the regulatory standard to which all laws in the country governing biodiversity should be aligned. In other words, the NEMBA aims to harmonise environment-oriented regulation and thus to limit the potential differences in the standards of biodiversity laws across the country, thereby avoiding potential duplication of regulations by the government departments responsible for making biodiversity legislation.²¹ It therefore brings about a certain level of consistency in biodiversity law through enunciating uniform principles for

¹⁷ Kidd *Environmental Law* 100; Algotsson "Biological Diversity" 99. Conservation was primarily entrusted to each individual province administration.

¹⁸ DEAT *National Biodiversity Strategy* 111; Kidd *Environmental Law* 20.

¹⁹ Du Plessis and Nel "Introduction" 5; Glazewski *Environmental Law* 67; also see s 24 read with s 7(2) of the *Constitution*.

²⁰ DEA *EMI Basic Training Course Manual* part 2 19; SEMAs are laws listed under s 1 of the *National Environmental Management Act* 107 of 1998 (hereafter NEMA) and are targeting specific environmental aspect. They are the *Environment Conservation Act* 73 of 1989; *National Water Act* 36 of 1998; *National Environmental Management: Protected Areas Act* 57 of 2003; *National Environmental Management: Biodiversity Act* 10 of 2004; *National Environmental Management: Air Quality Act* 39 of 2004; *National Environmental Management: Integrated Coastal Management Act* 24 of 2008; *National Environmental Management: Waste Act* 59 of 2008; and *World Heritage Convention Act* 49 of 1999.

²¹ Sections 99 and 100 of NEMBA, read with various other sections in the Act which *inter alia* requires consultations with the MEC and other stakeholders before the Minister may make regulations. Consultation allows other parties to provide input and to know what is being regulated, as well as what may still require regulations.

biodiversity conservation.²² The NEMBA is a national law and provincial biodiversity laws and policies may be developed provided they are in line with the guiding principles and other applicable provisions of the NEMBA.²³

The *Nature Conservation Ordinance* 12 of 1983 (hereafter the Ordinance) is currently the primary provincial biodiversity-specific law in Gauteng.²⁴ The Ordinance is a pre-constitutional law and has been largely described as fragmented, outdated and not conforming to the prescribed principles and standards of modern biodiversity law, for example.²⁵ In order to bring its biodiversity law into conformity with the NEMBA, the Gauteng provincial legislature introduced the *Gauteng Nature Conservation Bill*, 2014 (hereafter the Bill), and once enacted it will replace the Ordinance as the province's biodiversity specific law.²⁶

In this context, the objective of this study is to critically evaluate the existing Ordinance and the proposed Bill against the conservation role and responsibilities of provincial governments as explicitly and more implicitly stated in the national biodiversity law framework. This study will be conducted by way of a literature review focusing on national and provincial (Gauteng) legislation, government and academic publications, case law, international instruments and Internet-based sources relevant to the subject matter. Proceeding from this introduction, the study will in Chapter 2 discuss the South African biodiversity law and policy framework with specific emphasis on the role and

²² Algotsson "Biological Diversity" 97-125. Also see for example Ruppel "Regional Economic Communities" 275-317 where, in the context of human rights, the author describes the importunity of harmonising laws and achieving legal conformity, as central to reducing barriers for economic development. In a similar way, it can be argued that the alignment of biodiversity laws to the NEMBA could lead to better achievement of conservation objectives.

²³ DEAT *National Biodiversity Strategy* 17, 43. It is pointed out that the provincial law does not have to be an exact copy of the national laws. It could be stricter than national laws or be targeted at specific matters relevant to the province.

²⁴ Kidd *Environmental Law* 100; Kotzé *et al South African Environmental Law* 131-133. It is pointed out that although over the years the provincial Ordinances have been amended, many are still undergoing constitutional challenges from time to time.

²⁵ Kidd *Environmental Law* 100.

²⁶ SANBI *Biodiversity Mainstreaming Toolbox* 22. The Bill was introduced in 2014. Once it has gone through the process of public participation and been approved by the Gauteng legislature, it will be signed into law.

responsibilities allocated to the Gauteng Department of Agriculture and Rural Development (hereafter GDARD).²⁷ Chapter 3 will briefly explore the current state of biodiversity in Gauteng. Chapter 4 will assess and evaluate the Ordinance to estimate the extent to which it responds to the role and responsibilities of provincial authorities described in Chapter 2. The chapter proceeds in similar fashion with a critical evaluation of the Bill. Chapter 5 concludes this study with a consolidated appraisal of the extent to which the existing Ordinance and proposed biodiversity Bill provide for and elaborate on the conservation-related obligations of provincial authorities.

²⁷ The Gauteng Department of Agriculture and Rural Development (hereafter GDARD) is currently known as the provincial department responsible for regulating biodiversity in the province, and has over the years undergone name changes. For more on GDARD, see GDARD 2017 <http://www.gdard.gpg.gov.za/Pages/default.aspx>. GDARD is led by a Member of the Executive Committee (MEC), a political member of the provincial government. In this study, GDARD and MEC will be used to refer to the provincial department responsible for biodiversity conservation in Gauteng.

2 Provincial responsibilities in terms of biodiversity law

2.1 Introduction

South Africa's biodiversity law has undergone significant changes since 1994²⁸ and it has been influenced by global biodiversity conservation principles in ratified instruments such as the *Convention on Biological Diversity* of 1992 (hereafter CBD).²⁹ The CBD requires for example that parties put measures in place which support a holistic approach to biodiversity conservation focused on conservation of the entire ecosystem (the ecosystem approach), rather than on individual species.³⁰ Today, South Africa has an array of biodiversity laws comprising of both pre- and post-constitutional laws, with specified roles and duties set out for the State.³¹ This chapter explores the post-constitutional South African biodiversity law, provides a brief overview of the legislative role of the state in meeting the biodiversity conservation objective in the *Constitution*, and how this role is emulated in the NEMA. It will also look at the policy on the conservation of biodiversity before discussing the NEMBA and the legislative duties it places on the province. The chapter will also provide a brief discussion on the province's role emanating from other

²⁸ See DEAT *National Biodiversity Strategy* 13; SANBI *Biodiversity Mainstreaming Toolbox* 19-17.

²⁹ Algotsson "Biological Diversity" 100-101; Paterson "Biological Diversity" 106. For more on the *Convention on Biological Diversity* (1992) (hereafter CBD), see CBD 2017 <https://www.cbd.int/convention>. South Africa ratified it in 1995 and accordingly, the provide in s 231 that ratified international agreements are law in the country after being made into law by parliament. This makes them binding on government and this places a duty on government to give effect to their obligations.

³⁰ See CBD Secretariat *Handbook* 3-9. Art 8 of the CBD provides, for example, that "*in-situ* conservation" means "the conservation of ecosystems and natural habitats and the maintenance and recovery of viable populations of species in their natural surroundings..." and Art 9 refers to "*ex-situ* conservation" which means "the conservation of components of biological diversity outside their natural habitats". *In situ* conservation can be done by promoting landscape connectivity and the recovery of ecological processes, ecosystems and species to ensure the viability of the natural systems supporting ecological processes. *Ex situ* conservation could be, for instance, the conservation of a species outside its natural habitat in a zoo, or relocating it to a different habitat to promote its recovery. Also see Kotzé 2012 http://dspace.nwu.ac.za/bitstream/handle/10394/8575/Kotz%C3%A9_LJ.pdf?sequence=1 2-13; Algotsson "Biological Diversity" 100-101.

³¹ SANBI *Biodiversity Mainstreaming Toolbox* 17-21; Paterson "Biological Diversity" 108. Some provinces are still applying their pre-constitution Nature Conservation Ordinances alongside the post-constitution biodiversity law.

laws relevant to biodiversity conservation.³² The objective is to lay the basis for the assessment of the Gauteng biodiversity law in Chapter 4 of this study.

2.2 Environmental law framework

2.2.1 Introduction

An inclusive reading of the *Constitution* shows that when it comes to decisions affecting the environment, the state should consider environmental protection to be on a par with social and economic factors.³³ Chapter 2 of the *Constitution* contains the Bill of Rights and in it, section 24 is dedicated to the environment. The section calls for legislative and other measures to protect the environment, to prevent ecological degradation and to promote conservation.³⁴ This requirement has gradually led to the development of an environmental law framework that is directed at protecting the country's natural resource wealth, through targeting human behaviour and its impact on the environment.³⁵ The remainder of this section explores the regulation of the conservation of biodiversity as per South Africa's environmental framework law.

2.2.2 The Constitution of the Republic of South Africa, 1996

After section 24 was adopted, it became apparent that the prevailing environmental laws pertaining to biodiversity conservation were not adequate to meet the objectives of

³² With the exception of the Ordinance, the focus of this study is limited to the current biodiversity legislative framework, and therefore the pre-constitutional legislation will not be discussed. The other law which will be briefly looked at is the *National Environmental Management: Protected Areas Act* 57 of 2003 (NEMPAA).

³³ In this regard see Du Plessis and Nel "Introduction" 5; Glazewski *Environmental Law* 67.

³⁴ Sections 2 and 8 of the *Constitution*; Currie and De Waal *Bill of Rights Handbook* 522; Kidd *Environmental Law* 20. The Bill of Rights applies to all law and binds all persons and all organs of state. S 24 of the *Constitution* provides that "Everyone has the right: (a) to an environment that is not harmful to their health or well-being; and (b) to have the environment protected, for the benefit of present and future generations through reasonable legislative and other measures that (i) prevent pollution and ecological degradation; (ii) promote conservation; and (iii) secure ecologically sustainable development and the use of natural resources while promoting justifiable economic and social development."

³⁵ Du Plessis and Nel "Introduction" 5.

section 24, and neither were the laws in line with the prevailing global biodiversity standards.³⁶

The *Constitution* assigns the primary function of conserving biodiversity to the state, through the allocation of duties and responsibilities to the three spheres of government (national, provincial and local).³⁷ Importantly, when it comes to exercising these duties, the *Constitution* requires co-operative governance in that the three spheres must work together to achieve the common objective of upholding the *Constitution*.³⁸ In doing so, each sphere must exercise its duties in a manner which does not undermine or encroach on the competency of another sphere, for example.³⁹ This viewpoint was confirmed in the case of *Le Sueur v Ethekewini Municipality*, decided in 2013, for example.⁴⁰

2.2.3 Biodiversity legislative competence under the Constitution

The legislative competence for biodiversity conservation under the *Constitution* is primarily allocated to national and provincial governments, which together have concurrent legislative competence for biodiversity.⁴¹ This means that these two spheres share the biodiversity law-making responsibility and either or both national and provincial biodiversity law may find application in a province.⁴² In addition, a province may make recommendations to national government to make laws for matters requiring regulation within the province that currently fall outside the provincial legislative competency.⁴³ Schedule 4A of the *Constitution* also provides for what should happen in a situation where it is uncertain as to whether national or provincial law is applicable to a matter. Therefore,

³⁶ DEAT *National Biodiversity Strategy* 12.

³⁷ Kidd *Environmental Law* 20-21; Currie and De Waal *Bill of Rights Handbook* 522.

³⁸ Sections 40-41 of the *Constitution*; Paterson "Biodiversity" 727.

³⁹ See in this regard *In re: Certification of the Constitution of the Republic of South Africa*, 1996 4 SA 744 (CC) (hereafter referred to as the Certification case) para 289; Glazewski *Environmental Law* 105-107.

⁴⁰ *Le Sueur v Ethekewini Municipality* 2013 ZAKZPHC 6 (30 January 2013) (hereafter referred to as *Le Sueur*).

⁴¹ See Schedule 4A of the *Constitution*; Paterson "Biological Diversity" 109. Other competences of the two spheres include soil conservation, the environment, agriculture and cultural matters, to name but a few.

⁴² Section 104 read with ss 125(2)(a) and (b) of the *Constitution*; Kidd *Environmental Law* 31.

⁴³ Sections 104(1), (4) and (5) of the *Constitution*. However, provincial laws find application only in the province.

for example, if a matter requires legislative uniformity across the country, national legislation prevails over provincial, but only if certain circumstances are met.⁴⁴

2.3 Government institutions responsible for the development of biodiversity law

On the basis of the inclusive scope of the constitutional environmental right it is safe to conclude that the state in its entirety has a duty to protect the country's biodiversity.⁴⁵ The nature of the authority to execute this duty is not the same across the three government spheres, however. The key roles of each sphere are briefly outlined below.

2.3.1 National government

The national government has powers which transcend provincial boundaries⁴⁶ and it may pass laws on any matter, except those specifically excluded by the *Constitution*.⁴⁷ National government has the responsibility of setting the country's overall biodiversity conservation objectives.⁴⁸ At a national level, the Department of Environmental Affairs (DEA) carries this responsibility and sets the country's overall biodiversity policy framework. This biodiversity responsibility may be delegated to other government entities including

⁴⁴ Section 146 of the *Constitution*. Such circumstances include: if the matter cannot be legislated by the province; where there is unreasonable implementation of delay by the provinces; or where the legislation is necessary to avert a national crisis or necessary for the protection of the environment. In *Minister of Water and Environmental Affairs v Kloof Conservancy* 2016 1 All SA 676 (SCA) para 177 the statement was made that "In exceptional circumstances, the national sphere of government may intervene in a provincial sphere; a provincial sphere of government may intervene in a local sphere; and the national sphere may interfere in a local sphere where the provincial sphere has failed to do so".

⁴⁵ See Blackmore 2015 *SAJELP* 89. S 40 of the *Constitution* provides that government is constituted of the national, provincial and local spheres. In addition, s 7(2) requires the state and all organs of the state to protect and promote the rights in the *Constitution*, including the rights in s 24.

⁴⁶ See *Certification* case para 259.

⁴⁷ Section 44(1)(a)(ii) of the *Constitution*.

⁴⁸ GCIS *Pocket Guide* 88.

provincial departments responsible for the environment.⁴⁹ Furthermore, national government may intervene where provinces fail to exercise their legislative duties.⁵⁰

2.3.2 Provincial government

The *Constitution* empowers the provinces to make laws for certain issues within the provincial boundary. The issues over which the provincial government has legislative competency are listed in Schedules 4A and 5A of the *Constitution*. Schedule 4A lists concurrent legislative competence with national government in matters pertaining to the environment, nature conservation, soil conservation, and urban and rural development, amongst others. Schedule 5A lists examples of exclusive provincial legislative competencies such as abattoirs, provincial planning and roads.⁵¹ In addition, the provinces may legislate matters assigned to them by national government.⁵² It is important to point out that a province's authority to make law is linked to its ability to implement and assume responsibility for such law.⁵³

2.3.3 Local government

The status of local government is provided for in section 151 of the *Constitution*. The section provides that local government has, subject to national and provincial laws, the right to self-govern.⁵⁴ Furthermore, section 152 provides the objectives of local

⁴⁹ DEAT *National Biodiversity Strategy* 30, 115. Also see DEA 2017 <https://www.environment.gov.za/content/home>. On a national level, this role is shared with other departments such as the Department of Mineral Resources, the Department of Energy, the Department of Water and Sanitation, the Department of Agriculture, and the Department of Forestry and Fisheries.

⁵⁰ Section 100 of the *Constitution*.

⁵¹ Glazewski *Environmental Law* 109. Also see Schedules 4A and 5A of the *Constitution*. In addition, provinces may legislate matters in Schedule 5B, in accordance with ss 155(6)(a) and 7 of the *Constitution*, for example where it is necessary to meet local government's obligations and local government has failed to do so; also see *Certification* case para 367, where the court stated that overall the ambit of the provincial role vis-a-vis local government is support, supervision and monitoring.

⁵² Section 104 read with ss 139 and 238 of the *Constitution*; Glazewski *Environmental Law* 109-111; Paterson "Biodiversity" 730-735. Some provinces implement biodiversity law through state departments, eg Gauteng through GDARD. Other provinces have allocated this role to state agencies, eg North-West Province through North-West Parks and Tourism Board. The province is required to put in place measures for implementing the laws.

⁵³ *Certification* case paras 259 and 267; DEAT *National Biodiversity Strategy* 43. This means that the province should not pass laws which they are not able to enforce.

⁵⁴ Section 151 of the *Constitution*.

government, including the promotion of "a safe and healthy environment".⁵⁵ Local government is empowered to administer matters in Schedules 4B and 5B of the *Constitution*. These include for example air pollution, local tourism, public nuisance, municipal parks, and noise, to name but a few.⁵⁶ Furthermore, national and provincial governments may assign certain matters of biodiversity management to local government.⁵⁷ The NEMBA for example require local government to prepare an invasive species monitoring, control and eradication plan.⁵⁸ Furthermore, local government is required to include biodiversity management in its land-use planning regime⁵⁹ and to integrate environmental sustainability in matters concerning land use.⁶⁰

It follows from the discussion above that all spheres of government have a constitutional responsibility to implement laws pertaining to the conservation of biodiversity. The specific legislative duties of the province in meeting this responsibility is highlighted in the remainder of discussion below.

2.4 National Environmental Management Act 107 of 1998

2.4.1 Introduction

The NEMA is national framework law on the environment and serves as the enabling law giving effect to the realisation of the objectives of section 24 of the *Constitution*.⁶¹ It also sets the general approach to the country's environmental management undertaken by the

⁵⁵ Section 152(1)(d) of the *Constitution*.

⁵⁶ See ss 156(2) and (3) together with Schedules 4B and 5B of the *Constitution*. National or provincial governments may also assign the administration of a matter in Schedule 4A or 5A to local government. Municipal parks are used for biodiversity conservation, amongst other purposes.

⁵⁷ Ss 156(2) and (3) together with Schedules 4B and 5B of the *Constitution*; Glazewski *Environmental Law* 111-112.

⁵⁸ Section 76 (2) of NEMBA.

⁵⁹ Paterson "Biodiversity" 736.

⁶⁰ See *Le Sueur* para 6, where it was stated that although biodiversity conservation is not their core business, the South African environmental framework does not exclude local government from legislating issues at a local level in respect of protecting the environment (37-40). Also see *Maccsand (Pty) Ltd v City of Cape Town* 2012 4 SA 181 (CC) para 42 (hereafter the *Maccsand* case); SANBI *Biodiversity Mainstreaming Toolbox* 31-33.

⁶¹ Du Plessis and Nel "Introduction" 22. Also see *Fuel Retailers Association of Southern Africa v Director-General: Environmental Management, Department of Agriculture, Conservation and Environment, Mpumalanga Province* 2007 6 SA 4 (CC) para 59 (hereafter *Fuel Retailers* case).

state.⁶² The NEMA introduced a set of environmental management principles which serve as guidelines for environmental management across South Africa.⁶³ A brief overview of these principles and their implication for biodiversity is given below.

2.4.2 Environmental management principles in the NEMA

The principles guide the state in the making, implementation, interpretation, and administration of all environmental laws.⁶⁴ The collective reading of the principles reveals amongst other things that they are applicable alongside other considerations giving effect to the *Constitution*, socio-economic rights being an example.⁶⁵ Collectively, the principles require that people and their needs be at the forefront of environmental management and for development to be ecologically, economically and socially sustainable.⁶⁶ An example of the principle is sustainable development, which embodies other sub-principles.⁶⁷ Sustainable development requires the protection of biodiversity by calling for measures to prevent the loss and disturbance of ecosystems, landscapes and cultural heritage sites. It requires that harm to biodiversity must be avoided, and where it cannot altogether be avoided it must be minimised and remedied.⁶⁸ In addition, it requires that

⁶² Du Plessis and Nel "Introduction" 22; Kidd *Environmental Law* 36; Glazewski *Environmental Law* 137.

⁶³ Section 2 of NEMA; Blackmore 2015 *SAJELP* 90-93. Also see *Maccsand* case para 9; *BP Southern Africa* case paras 27-28; Glazewski *Environmental Law* 137, 280.

⁶⁴ Sections 2(1)(a)-(e) of NEMA; Van der Linde "National Environmental Management Act" 198-199. Also see Glazewski *Environmental Law* 137. The principles guide the legislation, implementation, interpretation and administration of all environmental laws in the country.

⁶⁵ Section 2(1)(a) of NEMA, for example, provides that the principles "shall apply alongside all other appropriate and relevant considerations, including the State's responsibility to respect, protect, promote and fulfil the social and economic rights in Chapter 2 of the *Constitution* and in particular the basic needs of categories of persons disadvantaged by unfair discrimination"; and s 2(4)(b)(i) provides that "the social, economic and environmental impacts of activities, including disadvantages and benefits, must be considered, assessed and evaluated, and decisions must be appropriate in the light of such consideration and assessment."

⁶⁶ Sections 2(2)-(3) of NEMA.

⁶⁷ Section 2(4) of NEMA; Blackmore 2015 *SAJELP* 97-111; Glazewski *Environmental Law* 141; Kidd *Environmental Law* 36. Sustainable development is defined in s 1 of NEMA as the means of balancing environmental, social and economic considerations when it comes to planning, implementing and decision making on matters affecting the environment, and that development serves both the current and future generations. In the *Fuel Retailers* case paras 44-53 the court held that the protection of the environment was core to achieving sustainable development and that development could not be based on a deteriorating environment; DEAT *National Biodiversity Strategy* 16.

⁶⁸ See CBD Secretariat *Handbook* 9 (Art 10) on the sustainable use of components of biological diversity; s 2(4)(a) of NEMA; Glazewski *Environmental Law* 141-142.

the exploitation of natural resources be done in a manner which does not lead to their depletion, and that stressed, vulnerable, sensitive and dynamic ecosystems and species be given specific management attention, especially when they are faced with pressure from human activities.⁶⁹

The NEMA also contains the principle of intergovernmental co-operation and co-ordination in relation to governance, laws, policies and actions related to the environment.⁷⁰ This principle moves the country's environmental governance regime from the historically un-coordinated approach and in line with modern international environmental management practices.⁷¹ The principle encapsulates the sharing of resources and information, and the co-ordination of policies and support services among the different state organs and institutions tasked with fulfilling the country's biodiversity conservation objectives.⁷² The implication of the NEMA is that any decisions made by the province which might affect the environment, including the making of biodiversity laws, must be guided by the principles.⁷³

⁶⁹ Section 2(4)(a) of NEMA; Blackmore 2015 *SAJELP* 110-111; Glazewski *Environmental Law* 280.

⁷⁰ In this regard, see the title to NEMA and s 2(4)(l); Nel and Kotzé "Environmental Management" 18-22. Co-operation enables government through the different spheres, for example, to avoid policy duplication; it promotes consistency across the spheres when it comes to environmental decision making; and it prevents conflict, amongst other things.

⁷¹ CBD Secretariat *Handbook* 13 (Art 18) calls, for example, for domestic and international scientific cooperation on biodiversity conservation; Jikijela *Co-operative Environmental Governance* 11-12. Such international practices are, for example, recognising that the different aspects of the environment are interlinked, as in ecological processes and ecosystems services, all of which are integrated to sustain the environment. Despite this, legislation and implementing competences are often scattered among different government departments. This has the potential to lead to administrative gaps and a disconnect in environmental governance between administrative bodies. Also see Kotzé and De la Harpe 2008 *PELJ* 208-209, 232-233.

⁷² Du Plessis and Nel "Introduction" 28.

⁷³ Section 2(1) of NEMA. It reasons that biodiversity must be regulated within the framework of the principles. In other words, the provincial biodiversity law cannot be inconsistent with the NEMA principles. Co-operation can aid institutions to avoid duplicating policies and wasting resources.

2.4.3 Other provisions in the NEMA relevant to biodiversity

Several provisions in the NEMA are directly or indirectly relevant to biodiversity, and these will be discussed hereunder insofar as they are relevant in the provincial context.⁷⁴

In addition to the guiding principles alluded to above, the NEMA requires the province to develop several frameworks for managing the environment. An example is the Environmental Management Plan (hereafter EMP). The EMP outlines and guides the overall approach of the province to environmental matters, including actions which may affect biodiversity.⁷⁵ The province is also required to produce an Environmental Management Framework (hereafter EMF) depicting the different landscapes in the province and the respective land-use activities permissible in each such landscape.⁷⁶ The province is further required to enforce all environmental laws, this for example through environmental management inspectors (EMIs). EMIs are enforcement officials in government with a mandate to enforce specific SEMAs.⁷⁷

⁷⁴ It must be pointed out that the Act in its entirety gives effect to s 24 of the *Constitution*. However, not every aspect in the Act will be discussed in this study. In this regard, see further Du Plessis and Nel "Introduction" 22.

⁷⁵ Section 12 of NEMA outlines the importance of an EMP and states that it is to:
"(a) co-ordinate and harmonise the environmental policies, plans, programmes and decisions of the various national departments that exercise functions that may affect the environment or are entrusted with powers and duties aimed at the achievement, promotion, and protection of a sustainable environment, and of provincial and local spheres of government, in order to:
(i) minimise the duplication of procedures and functions; and (ii) promote consistency in the exercise of functions that may affect the environment; (b) give effect to the principle of co-operative government in Chapter 3 of the *Constitution*; (c) secure the protection of the environment across the country as a whole; (d) prevent unreasonable actions by provinces in respect of the environment that are prejudicial to the economic or health interests of other provinces or the country as a whole; and (e) enable the Minister to monitor the achievement, promotion, and protection of a sustainable environment". For more, see s 14 of NEMA.

⁷⁶ Section 24(3) of NEMA. The current *Gauteng Environmental Management Framework* was published in 2014 (GDARD *Gauteng Environmental Management Framework*). It highlights important biodiversity areas in the province.

⁷⁷ See *Maccsand* case para 47; ss 1, 11-16, 31(c) and 35 of NEMA; DEA *EMI Basic Training Course Manual* 24-30. Commonly known as Green Scorpions, the EMI network of enforcement officials works across the country and in all three spheres of government. Furthermore, the provinces delegate EMI for both the province and for local government, with a mandate to enforce environmental laws in the province. This is an example of an area where co-operative governance is regularly fostered.

Chapter 5 of the NEMA provides for Integrated Environmental Management (IEM). The reading of the IEM chapter reveals that there must be an assessment of the potential impact of proposed activities on the environment, and that alternatives to the activities or the best ways of mitigating the negative impacts on the environment must be considered.⁷⁸ One of the tools used to carry out the assessment is an Environmental Impact Assessment (EIA).⁷⁹ The province is required to publish a list of activities which are subject to an EIA.⁸⁰ Section 24 of the NEMA authorises the province to evaluate and issue an environmental authorisation (EA) after such an EIA process has been undertaken. One of the factors assessed during an EIA process is biodiversity and the risk posed to such biodiversity by the proposed activities.⁸¹ The NEMA also provides for the delegation of duties from by the Minister to the MEC, for example.⁸²

It follows from the discussion above that in order to fulfil its constitutional biodiversity duties,⁸³ the province must give due regard to the provisions of the NEMA, and must consider people's interests and their social and economic concerns. Furthermore, the province must give effect to sustainable development and in so doing put measures in place to protect, for example, vulnerable ecosystems and species, and prevent the over-exploitation and degradation of biodiversity resources.⁸⁴ In addition, because biodiversity conservation programmes in most cases require buy-in from different implementing

⁷⁸ Section 23 of NEMA. EMI requires, for example, the integration of principles in all decisions affecting the environment, public participation, the assessment of risks and the potential impacts of activities on the environment, and the seeking of alternatives to such activities through an environmental impact assessment (EIA). Some of the aspects assessed during an EIA are biodiversity and the risk or impact posed to it by the proposed activity.

⁷⁹ See Appendix 3 to the EIA Regulations (GN 982 in GG 38282 of 4 December 2014).

⁸⁰ Section 24 of NEMA. The listing of these activities is done wholly on a consultative basis between the Minister and the MEC. The current regulations and respective regulated activities were published by the Minister under GN 982 in GG 38282 of 4 December 2014 and amended by GN 326 in GG 40772 of 7 April 2017. Listing Notice 3 of 2014, published GN 985 in GG 38282 on 4 December 2014 specifically relates to activities in the provinces requiring authorisation and affecting biodiversity, for instance. S 24 of NEMA provides that "the potential consequences for or impacts on the environment of listed activities or specified activities must be considered, investigated, assessed and reported on to the competent authority..."

⁸¹ For example, see Appendix 3(h)(vii) of the EIA Regulations, 2014.

⁸² S 42 of NEMA. The delegation may be in respect of the NEMA or any SEMA. It must be by agreement and published. The MEC may also delegate duties to other officials in the provincial departments.

⁸³ Also see para 2.3.2.above.

⁸⁴ Also see para 2.2.2.above.

agencies,⁸⁵ the province is required to co-operate with other state organs when it comes to developing and implementing existing laws, policies and frameworks.⁸⁶

Having regard to the above discussion, it can be concluded that the NEMA provides guidelines on what must be considered by the province when exercising its law-making duties for conserving biodiversity. These guidelines are carried through specific SEMAs, which provide more detail on the implementation and legislative duties of the province. It is therefore appropriate that the next discussion should consider the duties of the provinces as amplified by the SEMA specific to biodiversity in the country, in lieu of the above-mentioned NEMA guidelines.

2.5 Biodiversity-specific national policy and law

2.5.1 White Paper on the Conservation and Sustainable Use of South Africa's Biological Diversity of 1997

2.5.1.1 Introduction

The country began to align its biodiversity conservation laws with prescribed international standards after 1994.⁸⁷ This alignment process culminated in the 1997 policy on biodiversity, the White Paper on the Conservation and Sustainable Use of South Africa's Biological Diversity, 1997⁸⁸ (hereafter Biodiversity White Paper). After ratifying the CBD, the country set in motion a legislative process for biodiversity to replace the largely fragmented biodiversity laws that existed prior to 1994.⁸⁹ The Biodiversity White Paper introduced a broader definition of nature conservation by describing it with reference to

⁸⁵ McGaw *et al* "Medicinal Plants" 83; Jikijela *Co-operative Environmental Governance* 11-12.

⁸⁶ See para 2.2.2.above; s 42 of NEMA. The delegation may be in respect of the NEMA or any SEMA.

⁸⁷ Glazewski *Environmental Law* 267. Primarily, these international standards are those prescribed in the CBD. The CBD places an obligation on member states to align their biodiversity conservation with its principles.

⁸⁸ Glazewski *Environmental Law* 257. The Biodiversity White Paper was published in GN 1095 in GG 18163 of 28 July 1997.

⁸⁹ Paterson "Biological Diversity" 109. Paterson "Biodiversity" 716-717.

the "conservation of biological diversity" and the "sustainable use of its components".⁹⁰ As a policy, the Biodiversity White Paper was "persuasive in nature", hence provides insights into the justification and origins of the law, and is often used to guide the interpretation and implementation of the law.⁹¹

2.5.1.2 Overview

The Biodiversity White Paper made the point that the biodiversity decline in the country is being driven by human activity, described the consequences, and motivated the need for legislative measures to stem this decline. It also identified the state as the primary role player for biodiversity conservation.⁹² It introduced a direct link between biodiversity and the needs of the people by including access and the sharing of the benefits of biodiversity with the people as part of its objectives.⁹³

2.5.1.3 The role of the provinces

The provincial role in conserving biodiversity identified in the Biodiversity White Paper includes for example passing and implementing biodiversity laws; promoting biodiversity conservation; monitoring and promoting the sustainable use of biodiversity; implementing sustainable development; managing protected areas; and developing partnerships with communities and other government and non-government entities to foster biodiversity conservation.⁹⁴

⁹⁰ Biodiversity White Paper 24, 93. Conservation refers to the management of the human use of nature in a way that allows for the maximum benefit for the present generation while leaving enough natural resources to meet the needs of future generation. It includes sustainability, maintenance, protection and the enhancement of the natural resources. It includes biodiversity conservation informed by the CBD, such as the protection of the landscape, habitat, species and genetic diversity, the sharing of the benefits derived from biodiversity, and sustainable use. These goals informed the principles of later biodiversity laws in South Africa. Also see DEAT *National Biodiversity Strategy* 16-17.

⁹¹ Paterson "Biodiversity" 715.

⁹² Biodiversity White Paper 11-12. The key objectives are biodiversity conservation, the sharing of the benefits derived from biodiversity, and the sustainable use of biodiversity resources.

⁹³ It can be argued that the White Paper first enunciated the link between biodiversity benefits and people.

⁹⁴ Biodiversity White Paper 88. These are required to be aligned to national laws, policies and programmes. Conservation responsibilities extend to protected and unprotected areas in the province.

2.5.2 *National Environmental Management: Biodiversity Act 10 of 2004*

2.5.2.1 Introduction

The NEMBA is the law envisaged in the Biodiversity White Paper and it is one of the SEMAs referred to in the NEMA.⁹⁵ As the primary biodiversity-specific law of South Africa, its introduction signified a reform in the regulation of the country's biodiversity regulation.⁹⁶ The NEMBA generally sets out the role of the state in biodiversity conservation⁹⁷ and it targets human activities known to have a negative impact on biodiversity.⁹⁸ It bestows custodianship or trusteeship of the country's biodiversity on government and therefore ensures that the government has a responsibility for safekeeping biodiversity in a sustainable manner for the benefit of the current and future generations.⁹⁹ The remainder of this section of this dissertation is therefore dedicated to the role imposed by the NEMBA on the South African government in relation to biodiversity, with specific emphasis on the responsibilities of provinces.

2.5.2.2 Objectives of the Act

The application of the NEMBA is within the framework, objectives and principles of the NEMA.¹⁰⁰ Overall, the objectives in the NEMBA are aimed at bringing consistency in the management and conservation of South Africa's biodiversity through the protection of entire ecosystems and indigenous species, the sustainable use of biodiversity resources, the equitable sharing of the benefits derived from biodiversity, the establishment of

⁹⁵ Section 1 of NEMA.

⁹⁶ Generally, see s 1 of NEMA; Ch 2 above; Glazewski *Environmental Law* 268.

⁹⁷ Paterson "Biodiversity" 728-729. Other legislation includes the *National Forests Act* 84 of 1998 and the *National Environmental Management: Protected Areas Act* 57 of 2003.

⁹⁸ See WFC 2012
http://www.worldfuturecouncil.org/fileadmin/user_upload/PDF/Survey_of_Future_Just_Biodiversity_Policies_and_Laws.pdf 2-18. The NEMBA is globally recognised as being among the best biodiversity laws.

⁹⁹ Ss 3-4 and 9 of NEMBA. For more on the trusteeship of natural resources on the state, see Blackmore 2015 *SAJELP* 89-116; Freedman "Conservation, Sustainable Use" 282-290.

¹⁰⁰ S 7 of NEMBA; Paterson "Biodiversity" 735.

supportive institutions, and the giving of effect to the country's obligations under international biodiversity instruments.¹⁰¹

2.5.2.3 Application of the NEMBA and provincial laws

The NEMBA is a national law passed by the national parliament, and together with the subsequent regulations it finds application throughout the country. Regulations can be described as extensions of primary laws and often provide finer details about their implementation.¹⁰² Provincial laws, on the other hand, are passed by provincial legislatures and unlike national laws, provincial laws apply within the particular province only.¹⁰³ The implication of the aforementioned is that either national and/or provincial law can therefore be applied to an aspect in a province - biodiversity for example.¹⁰⁴

2.5.3 Substantive matters in the Act and the role of provincial governments

2.5.3.1 Biodiversity planning and monitoring

It must be noted that effective biodiversity management programmes are often dependent on a systematic and organised planning regime which is rooted on a solid legislative framework.¹⁰⁵ The NEMBA provides for planning and monitoring as reflected in the National Biodiversity Framework of 2008 (hereafter the NBF). The NBF highlights specific threats to biodiversity as well as the norms, standards and what is typically required for the effective mitigation of such threats to biodiversity, through biodiversity

¹⁰¹ S 2 of NEMBA; Kidd *Environmental Law* 104; Glazewski *Environmental Law* 268; Paterson "Biological Diversity" 106. The South African Biodiversity Institute (SANBI) is an institution established in the NEMBA which is dedicated to research, advice, monitoring, conservation and related aspects of the sustainable use of the country's biodiversity.

¹⁰² The subsequent laws made under the NEMBA are referred to as regulations, secondary or subordinate legislation. Botha *Statutory Interpretation* 16. Subordinate legislation can be described as an extension of the primary law and often provides details on its implementation.

¹⁰³ Sees 104 of the *Constitution*.

¹⁰⁴ See para 2.2.3 above; s 104(1) read with Schedule 4A of the *Constitution*. The implication is that the provinces may elect to implement the provisions of the NEMBA or pass their own provincial biodiversity law. However, the *Constitution* also allows the delegation of powers from the Minister to provinces to pass legislation for certain matters and also requires that there be consultations between the departments to avoid the duplication of legislation.

¹⁰⁵ Boer "Biodiversity Planning Law" 535. Such a framework should ideally define the procedures, obligations and responsibilities of all role players.

planning and monitoring, for example.¹⁰⁶ It can be argued that the NBF does not necessarily address all threats facing biodiversity, as in some cases, other threats are managed through the implementation of guidelines and policies envisaged in the NEMA, the EMF and EIA processes, for example.¹⁰⁷ What the NBF does is provide provincial authorities and other role players with a systematic approach towards mitigating specific identified threats to biodiversity.¹⁰⁸

2.5.3.2 Habitat loss and fragmentation

Habitat loss and fragmentation are two of the greatest threats facing biodiversity¹⁰⁹ as increased human population and the consequent demand on biodiversity resources have resulted in increased competition for available space between humans and biodiversity.¹¹⁰ Combating habitat loss is an important objective in biodiversity conservation and it can be achieved through promoting habitat connectivity,¹¹¹ for example. To promote habitat connectivity, the NEMBA requires of provincial authorities to protect ecologically functioning ecosystems through the declaration of bioregions and implementing Biodiversity Management Plans (hereafter BMPs).¹¹² The objective of a bioregion is to

¹⁰⁶ Ss 37-39 of NEMBA. The threats to biodiversity include the decline in natural habitats, destruction, fragmentation and degradation, threats of alien and invasive species, over-harvesting of species and the threat of climate change; Paterson "Biodiversity" 736; SANBI *Biodiversity Mainstreaming Toolbox* 20. Therefore, the purpose of biodiversity planning and monitoring is to integrate and co-ordinate the monitoring, conservation and research of biodiversity by using the different planning instruments available to relevant parties such as the provinces. Also see the *National Biodiversity Framework* (NBF) published in GN 813 in GG 32474 of 3 August 2009.

¹⁰⁷ See the discussion in 2.4.3 above. Also see the discussion in 2.4.2 above, where it was pointed out that intergovernmental co-operation and co-ordination dictate that the duplication of policies should be avoided at the different government levels. Therefore, it is safe to say that the different policy frameworks all contribute to the management of biodiversity.

¹⁰⁸ GDARD *Gauteng State of Environment Report* 77-82.

¹⁰⁹ GDARD *Gauteng State of Environment Report* 77.

¹¹⁰ See the preamble to the NEMA; *Draft National Biodiversity Offset Policy* (GN 276 in GG 40733 of 31 March 2017). The draft policy aims to set guidelines for offsetting and legally securing biodiversity viable areas, and therefore promote biodiversity. This will form part of the mitigation during the EIA processes.

¹¹¹ Bennett *Linkages in the Landscape* 8-9; CBD Secretariat *Biodiversity Issues* 1-6. Connectivity requires the incorporation of different landscape characteristics which support the free movement of natural processes. The movement of organisms and the exchange of genetic materials are important for biodiversity and can assist the long-term adaptation of species to environmental changes.

¹¹² GDARD *Gauteng State of Environment Report* 77; ss 40-41, 45 and 50 of NEMBA. For Gauteng province, see the *Determination of Bioregions and Publication of Bioregional Plans* (N 2684 in Gauteng PG 390

provide for the long-term survival of biodiversity and it should ideally represent areas of high biodiversity as well as inform the respective biodiversity management role of public authorities for those areas.¹¹³

2.5.3.3 Threatened species and ecosystems

The NEMBA requires the protection of threatened species and ecosystems through the identification and listing of such species and ecosystems and the regulation of human activities affecting them.¹¹⁴ To achieve the afore-mentioned, the NEMBA empowers the Minister to publish a list of threatened species and ecosystems.¹¹⁵ In addition, the provinces may identify and publish lists of protected ecosystems within their boundaries.¹¹⁶ The implication of such listings is that the carrying out of restricted activities involving a listed ecosystem is subject to a permit.¹¹⁷ Furthermore, provinces are required to provide for the management of listed ecosystems, in their provincial environmental management plans, for example.¹¹⁸

2.5.3.4 Protected species

The NEMBA requires the Minister to list the protected species in the country.¹¹⁹ The regulation of such listed protected species is detailed in the Threatened or Protected Species Regulations, 2007 (hereafter TOPS) which applies to the domestic trade in listed

of 2 September 2015); *Norms and Standards for Biodiversity Management Plans for Species* (GN 214 in GG 31968 of 2 March 2009).

¹¹³ Sections 40-41, 45 and 50 of NEMBA; SANBI *Biodiversity Mainstreaming Toolbox* 20, 39-40. A bioregion is an area that contains whole or several nested ecosystems, and is characterised by its different landforms, vegetation, human culture and history; NBF 57-58. For further information on bioregions see SANBI 2015 <http://www.sanbi.org/news/countrys-first-ever-bioregional-plan-gazetted>. Also see Paterson "Biological Diversity" 112-113; Glazewski *Environmental Law* 270-271.

¹¹⁴ Section 51 of NEMBA; Kidd *Environmental Law* 106.

¹¹⁵ Sections 52 and 56 of NEMBA.

¹¹⁶ Paterson "Biological Diversity" 114-117; ss 52-53 of NEMBA. The Minister may identify threatening processes to the listed ecosystems. Ecosystems are categorised as critically endangered if they have undergone extreme ecological damage because of human activities and are subject to high risk of irreversible transformation. Endangered ecosystems are degraded but not critically endangered. Vulnerable ecosystems face a high risk of becoming degraded, and protected ecosystems are those of high conservation value although not classified in any of the preceding three categories.

¹¹⁷ Section 57 read with s 1 of NEMBA.

¹¹⁸ Section 54 of NEMBA.

¹¹⁹ Section 56 of NEMBA. The Minister is responsible for the environment.

species, through a permit system.¹²⁰ Provinces are responsible for regulating activities related to TOPS through issuing permits and monitoring the compliance with permit conditions or licences, and the general enforcement of TOPS within the provinces. The provinces may also publish province-specific lists of TOPS species, which may not conflict with those listed in the national list.¹²¹

In addition, the NEMBA also demands the regulation of international trade in protected listed species. This is done by giving effect to the *Convention on International Trade in Endangered Species of Wild Fauna and Flora* of 1973 (CITES).¹²² At first glance CITES does not seem relevant to provincial biodiversity regulation since its main objective is to regulate international trade in *fauna* and *flora*. This is not the case, however, as will be seen below. CITES regulates the trade in species which are threatened by international trade. It places species in different categories and into appendices, based on their conservation status and the level of threat emanating from international trade.¹²³ A variety

¹²⁰ Section 57 of NEMBA. First promulgated in 2007, the *Threatened or Protected Species Regulations* (TOPS) (GN R152 in GG 29657 of 23 February 2007) read with the TOPS List (GN R151 in GG 29657 of 23 February 2007) have since undergone several amendments with the recent amendments being in April 2014; see TOPS Regulations s 2. It is aimed at domestic biodiversity protection. It provides for the registration and regulation of facilities conducting trade-related activities involving protected species. Examples are captive breeding facilities, sanctuaries, nurseries, game farms, taxidermists, rehabilitation facilities, temporary holdings, scientific institutions, commercial exhibitions, wildlife traders and freight agents, amongst others. Recent development has seen the Minister publishing TOPS regulations for the marine environment, *Threatened or Protected Marine Species Regulations* (GN R477 in GG 40876 of 30 May 2017) and the *List of Marine Species that are Threatened or Protected, Restricted Activities that are Prohibited and Exemption from Restriction* (GN R476 in GG 40875 of 30 May 2017).

¹²¹ Paterson "Biodiversity" 741; Kidd *Environmental Law* 107; Paterson "Biological Diversity" 114; TOPS Regulations s 3; s 87A of NEMBA. The Minister is the issuing authority for activities involving TOPS species in protected areas, TOPS applications by other organs of state as well as TOPS species from the sea, for example. The provincial government is the issuing authority for all other activities, such as those carried out by private persons in their provinces.

¹²² Section 57 of NEMBA; Kidd *Environmental Law* 62, 109 and 131.

¹²³ See CITES Date Unknown <https://cites.org/eng/disc/how.php>. Species are categorised into three appendices, Appendix I being the species most threatened with extinction and trade in which is permitted under extreme conditions. Appendix II are species not necessarily threatened with extinction, but trade in which must be controlled to avoid unsustainable utilisation. Appendix III are species protected by at least one country, and that country has asked the species to be listed to control its trade. Also see Fuchs 2008 *German Law Journal* 1567; Paterson "Biological Diversity" 115; Kidd *Environmental Law* 62, 131.

of different species in South Africa are listed and traded to different global destinations.¹²⁴ In order to meet these international conservation obligations, the Minister promulgated the CITES regulations in 2010 and the CITES species list has since been published and amended several times.¹²⁵ The Minister is the country's overall reporting authority for CITES, but regulating certain aspects related to CITES-listed species within a province is the responsibility of provincial authorities, for example, this includes the import, export, hunting and possession of CITES species in the province.¹²⁶ In general, CITES does not replace but instead complements the application of domestic biodiversity laws.¹²⁷

2.5.3.5 Protection of threatened ecosystems

The protection of ecosystems is one of the objectives of the NEMBA, and for this the NEMBA requires the publication of threatened ecosystems. Responsibility for publishing the lists falls on the Minister and the MEC of a province.¹²⁸ The National List of Ecosystems that are Threatened and in Need of Protection Schedule was published in 2012 in fulfilment of this duty. It requires ecosystem protection through proactive management.

¹²⁴ For an outlook on the trade under CITES, see the executive summary in Sinovas *et al Southern Africa's Wildlife Trade* ii-iii. The UNEP report prepared on behalf of SANBI explores and analyses the trade in CITES-listed species of Southern African countries, including the estimated values of traded species and their conservation status. Traded species include for example lions, cycads, elephants, Cape parrots, aloes etc.

¹²⁵ Paterson "Biodiversity" 741; *CITES regulations*, 2010 (GN R173 in GG 33002 of 5 March 2010). The CITES species list was amended in 2017 (GN R529 in GG 40889 of 5 February 2017). Amendments to the list has over the years seen some species added, removed or moved to some different appendices. For example, the pangolins were all moved to Appendix I due to increased threats, while the mountain zebra was moved from Appendix I to II due to a recovery in the number of animals under conservation.

¹²⁶ Section 3(4) of the CITES Regulations, read with s 87A(2) of NEMBA. The responsibility for CITES permits is for all CITES listed species, irrespective of whether they are indigenous or non-indigenous, if they are used in international trade. Paterson "Biological Diversity" 115. Provincial permitting jurisdiction does not, for example, cover specimens originating in a national park, or applications from other state organs. It is important to point out that domestically some species are listed on both TOPS and CITES, eg cheetahs, Nile crocodiles, Cape parrots, pangolins and domestic cycads (for the role of such listing, see the Non-Detriment Findings in GN R575 in GG 40021 of 27 May 2016). Other species are listed only on TOPS, eg African wild dogs. Although domestically they are endangered, they are not currently threatened by international trade.

¹²⁷ In this case, the court had to decide whether it matters if the hunter who shot a CITES-listed species was domestic or foreign. In the end it was found that it does not matter, provided the objective of the permit, to hunt the animal, was met and the *CITES Regulations* were observed. See *Vorster v Department Economic Development, Environment and Tourism Limpopo Provincial Government* 2006 ZAGPHC 44 (5 May 2006) para 3.

¹²⁸ See s 2 read with s 52 of NEMBA.

Restrictions are placed on certain activities from being undertaken in listed ecosystems, in order to protect the ecosystems from degradation, fragmentation, and impact on their overall viability and functioning, especially when they are not found inside a formally protected area. The NEMBA empowers provincial authorities to publish a province-specific list of ecosystems that require protection.¹²⁹ The lists include the location and the threats to the ecosystem. The list is reviewed every five years and any changes thereto must be made in consultation with the Minister.¹³⁰

2.5.3.6 Species and organisms posing a threat to biodiversity

Alien and invasive species (hereafter AIS)¹³¹ are among the major threats to indigenous biodiversity in South Africa¹³² and therefore the NEMBA requires that the government take measures to control and manage AIS and their impact on biodiversity.¹³³ The NEMBA provides a list of restricted activities related to AIS which may not be undertaken without authorisation. It further places a duty on every person to take care when dealing with AIS, in order to prevent harm to biodiversity.¹³⁴ The Minister is the primary regulatory

¹²⁹ See s 52 of NEMBA read with GN 1002 in GG 34809 of 9 December 2012.

¹³⁰ GN 1002 in GG 34809 of 9 December 2012 2-3. Categories of ecosystems may be listed as follows: critically endangered (CR) are ecosystems that have undergone severe degradation as a result of human intervention and face an extremely high risk of irreversible transformation. Endangered (EN) ecosystems have undergone degradation, but they are not yet critically endangered ecosystems. Vulnerable (VU) ecosystems have a high risk of undergoing significant degradation, but are not yet critically endangered or endangered, and protected ecosystems are those of high conservation or provincial importance but are not listed in any of the previous categories.

¹³¹ Section 1 of NEMBA. A species is alien when it is not indigenous to the country or when an indigenous species is translocated or intended to be translocated to an area outside its natural distribution range. This excludes indigenous species naturally extending their distribution range without human interventions. An invasive species can be alien or indigenous. It has established itself outside its natural distribution range and poses a threat to ecosystems, habitats or other species, or the economy, and poses a threat to environmental health or human welfare.

¹³² Paterson "Biological Diversity" 119-120. GDARD *Gauteng State of Environment Report* 82. In *Kloof Conservancy v Government of the Republic of South Africa* 2014 ZAKZDHC 60 (22 October 2014) 90 (hereafter *Kloof Conservancy case*), it was pointed out that AIS are negatively affecting the country's economy and state organs have a mandate to control AIS. The court stated that human survival depends on biodiversity and healthily functioning ecosystems services and that conservation is a pre-requisite for development. It was further pointed out that development is not sustainable if it results in habitat degradation or the spread of alien or invasive species.

¹³³ Section 64 of NEMBA.

¹³⁴ Paterson "Biodiversity" 744-746. In this regard see s 1 of NEMBA for a list of restricted activities, which includes, amongst others, transporting, possessing, propagating, trading, introducing etc. (s 73 of

authority for AIS, NEMBA for example provides that the Minister is the issuing authority for applications regarding alien or listed invasive species.¹³⁵ However, it appears that this regulatory responsibility is shared with the. In general, NEMBA requires consultative process with the greater public, and particularly between the Minister and MEC for regulating of biodiversity,¹³⁶ for example, it specifically provides that the MEC may only publish a provincial list of invasive species with concurrence with the Minister.¹³⁷ The Act also provides that there must be a written agreement between the Minister and the MEC for when it comes to permitting arrangement for AIS.¹³⁸ The MEC's province-specific invasive species list must be reviewed by the province whenever necessary and the province must prepare management plans to control and eradicate listed invasive species, and in particular for land under their control.¹³⁹ The current regulatory regime of AIS provides a list of species placed in different categories as well as restricted activities for the listed species.¹⁴⁰ It is safe to say that NEMBA requires the province to regulate matters related to AIS and to put measures in place to mitigate the impact of AIS on biodiversity in the province.¹⁴¹

2.5.3.7 Bio-prospecting, access and benefit-sharing

NEMBA). The duty of care is placed on all landowners who have AIS as well as competent authorities to control and eradicate AIS in their jurisdictions.

¹³⁵ Section 87A(1)(c) read with section 97(1)(c) of NEMBA.

¹³⁶ Section 63 and 79 of NEMBA.

¹³⁷ Section 70(3) of NEMBA.

¹³⁸ Section 87A(3) read with sections 66-69 and 70 of NEMBA.

¹³⁹ Sections 70, 75 and 76 of NEMBA; DEAT *National Biodiversity Strategy* 89-90. Creating legislation that is aligned and coordinated to combat AIS, and research into AIS and creating awareness of their impacts is among the means necessary for managing their impacts. The AIS provisions in the NEMBA also include reference to GMO.

¹⁴⁰ In this regard see the restricted activities in s 1 of NEMBA read with ss 65, 67, 70, 71-71A, together with the AIS Regulations (GN R598 in GG 37885 of 1 August 2014) and the AIS List (GN 864 in GG 40166 of 29 July 2016). For example, Category 1(a) consists of species that must be combatted or eradicated. Category 1(b) species must be controlled. Category 2 requires a permit to carry out restricted activities and Category 3 species are those which are subject to exemptions. Restricted activities include releasing, spreading, keeping, disposing of, catching and introducing, amongst others.

¹⁴¹ Section 76 (2) of NEMBA. The section provides that all organs of the state in all spheres to prepare an invasive species "monitoring, control and eradication plan". The current plan was published in 2015 and can be accessed at <https://invasives.org.za/news-previews/item/1123-invasive-species-control-plan-guidelines-released>; Also see *Kloof Conservancy* case para 90; SANBI *Biodiversity Mainstreaming Toolbox* 13-14.

The NEMBA requires that research into biodiversity resources for commercialisation and exploitation purposes be performed in a fair and equitable manner, and that such exploitation should benefit the relevant communities, in particular where their knowledge is accessed in the process of the commercialisation.¹⁴² The Act requires applications for permits for exporting for research purposes or undertaking any bioprospecting involving indigenous biodiversity resources.¹⁴³ The Minister is the issuing authority for permits for bioprospecting, but the province is the issuing authority for the export of resources from its jurisdiction, and it is required to provide inputs into any such permit issued by the Minister which affects the province.¹⁴⁴

2.5.3.8 Permits in relation to activities under the Act

Permits are provided for under Chapter 7 of the NEMBA and are central as a controlling instrument in implementing the NEMBA.¹⁴⁵ The cumulative implication of Chapter 7 is that the permitting duties in the NEMBA are shared between the national and provincial authorities, and in particular where the regulated aspect affects biodiversity in the province.¹⁴⁶ The province is empowered to regulate the permissible activities in the NEMBA and in some instances it is empowered and may make its own list, for example, related to invasive species, TOPS, CITES, and ecosystems.¹⁴⁷ An important aspect of the

¹⁴² Section 80 of NEMBA; Paterson "Biological Diversity" 118. Also see s 1 of NEMBA, where bioprospecting is described as any research, development or application of indigenous biodiversity or knowledge in the use of such biodiversity, for commercial or industrial exploitation.

¹⁴³ Section 81 of NEMBA; Kidd *Environmental Law* 112-113.

¹⁴⁴ See s 4(2) of the *Bioprospecting, Access and Benefit-Sharing Amendment Regulations* (GN 447 in GG 38809 of 19 May 2015) read with ss 87A and 82-86 NEMBA; Paterson "Biological Diversity" 118. Also see the discussion in 2.4.2 above. One of the objectives of regulating bioprospecting is to benefit communities and therefore contribute to their socio-economic status.

¹⁴⁵ Kidd *Environmental Law* 113-114. Generally, see ss 87 and 87A of NEMBA, prescribing acts requiring permits and the issuing authorities. For example, permits are required for carrying out restricted activities in the NEMBA.

¹⁴⁶ See s 87A read with s 1 of NEMBA, containing a list of restricted activities. The sharing of permitting responsibilities is in line with the concurrent biodiversity mandates of national and provincial governments discussed in 2.2.3 above, but this may also lead to the duplication of regulations in relation to the same species, for example.

¹⁴⁷ Section 87A of NEMBA; for example, authorisation is required from TOPS for trading, using, researching, growing, and breeding, receiving and giving, trans-locating or moving, uprooting, or damaging without a permit. In addition, importing, exporting, causing to multiply, growing and trans-locating listed AIS species requires a permit.

NEMBA is that it requires consultation between the Minister and the MEC in which they may enter into regulatory agreements. In addition, the Minister may also delegate certain duties in NEMBA to the MEC.¹⁴⁸

2.5.4 Other relevant biodiversity laws and policies

2.5.4.1 Introduction

Given that the core subject of this study is primarily the province's duties emanating from the NEMBA, a detailed analysis of all other laws relevant to biodiversity conservation in the country is beyond the scope of this study. Suffice it to say that biodiversity conservation is provided for not only in the NEMBA but also in other environmental laws.¹⁴⁹ Several of these laws may, for example, target specific aspects of biodiversity such as soil, water, air, heritage resources and the control of alien and invasive species.¹⁵⁰ In the light of the foregoing, it is prudent to briefly provide a discussion on one such law, as it is directly applicable to biodiversity conservation, alongside the NEMBA. In addition, the discussion will also highlight several international instruments contributing to biodiversity conservation.¹⁵¹

¹⁴⁸ The NEMBA therefore promotes co-operative governance as discussed in 2.4.2 above (s 87A read with ss 92 and 99 of NEMBA). It is common cause that consultative processes are regularly held between the national, provincial and other stakeholders. However, to date, there has been no promulgated delegation of such duties under the NEMBA to the provinces. It is arguable, therefore, that currently the provinces are drawing their biodiversity regulatory powers directly from the *Constitution* and the empowering provision in the NEMA and the NEMBA.

¹⁴⁹ In this regard see Paterson "Biodiversity" 742-746; Kidd *Environmental Law* 115-141; Glazewski *Environmental Law* 281-291.

¹⁵⁰ The following are a few examples and do not constitute all the relevant laws contributing to biodiversity conservation: the *National Forests Act* 84 of 1998 provides for biodiversity conservation through the protection of forests and trees. It requires the Minister to list protected species of trees and prohibits certain activities without authorisation. The *Conservation of Agricultural Resources Act* 43 of 1983 and its regulations provide for the conservation of soil and the control of alien and invasive plant species and their management. They provide different categories of these plants and prohibitions related to such plants. The *National Water Act* 36 of 1998 regulates aspects related to water uses. It provides for the protection of catchment areas. The Act for example prohibits the disturbance of water courses such as rivers and wetlands as well as the pollution of water sources. Furthermore, the SEMAs under the NEMA are all relevant to biodiversity.

¹⁵¹ The list of international instruments does not reflect all the relevant laws. For a general discussion on international laws, see Devine "International Environmental Law" 126-164; Glazewski *Environmental Law* 39-46, 281-291; Kidd *Environmental Law* 45-67.

2.5.4.2 National Environmental Management: Protected Areas Act 57 of 2003

The NEMPAA provides for the declaration and management of protected areas in order to foster biodiversity conservation.¹⁵² In so doing it provides for and extends the range of protected area networks. The objectives of the NEMPAA aim to secure protected areas, and for biodiversity, this is arguably one of the most important aspects relevant for its conservation.¹⁵³ NEMPAA provides competences to both national and provincial governments with regards to declaring protected environments.¹⁵⁴

A reading of the NEMPAA reveals that it closely mirrors the objectives of the NEMBA, in that both pieces of legislation are aimed at the conservation of biodiversity, sustainable use, and the sharing of benefits arising from biodiversity.¹⁵⁵ The NEMPAA affords protection to all protected environments managed at national, provincial, local and private levels. It affords protection to all indigenous biodiversity within protected areas and sets guidelines on the management of such areas.¹⁵⁶ The implementation of the NEMPAA is in conjunction with the provisions of the NEMBA as well as the applicable provincial law. One of the important provision is section 12 of the NEMPAA. The section specifically calls for the continued existence of the provincial protected areas that were declared before the NEMPAA was proclaimed.¹⁵⁷

¹⁵² Sections 2 and 9 of NEMPAA. It provides for kinds of protected areas including national parks, nature reserves, special nature reserves, protected environments and world heritage sites, amongst others. Glazewski "Constitutional and Legal Framework" 47. The preamble to the Act provides the purpose, which includes the "protection and conservation of ecologically viable areas representative of South Africa's biological diversity and its natural landscapes and seascapes..."

¹⁵³ See para 2.5.3.2.above.

¹⁵⁴ SANBI *Biodiversity Mainstreaming Toolbox* 76; Glazewski *Environmental Law* 290. This further complements the concurrent legislative responsibility for biodiversity conservation called for in Schedule 4A of the *Constitution*.

¹⁵⁵ Section 17 of NEMPAA; s 2 of NEMBA.

¹⁵⁶ Glazewski "Constitutional and Legal Framework" 47; Kidd *Environmental Law* 125.

¹⁵⁷ Section 12 of NEMPAA. This section was the subject of a court case, where a mining company wanted to prospect in a nature reserve that had been proclaimed using old provincial laws. A reading of the judgment reveals that, despite the fact that the laws used to proclaim the reserve were different from the NEMPAA, the objective of s 24 of the *Constitution* read with the NEMPAA is to conserve biodiversity, and this object cannot be overlooked irrespective of the shortcomings in the law at the time the nature reserve was proclaimed. The court ruled that no mining activities are allowed in nature reserves that were protected under older provincial laws and that the objectives of the NEMPAA apply to provincial nature reserves. In this regard, see *Mpumalanga Tourism and Parks Agency v Barberton Mines (Pty)*

The provincial authority may declare certain categories of protected areas within the province and is empowered to withdrawal such declaration. These protected areas include nature reserves, wilderness areas and protected environments.¹⁵⁸ In addition, the provinces are responsible for the management of such protected areas, including producing the management plan, as well as the overall monitoring and supervision of the biodiversity conservation in such areas.¹⁵⁹

2.5.4.3 International law instruments

One of the objectives of the NEMBA is to give effect to international agreements affecting biodiversity which are binding on the country.¹⁶⁰ South Africa is a signatory to a number of international agreements relevant for biodiversity.¹⁶¹ However, for ratified agreements to become law in the country, they must be made part of the domestic law.¹⁶² The CBD and CITES are examples of such binding international agreements, which are implemented directly or indirectly through the NEMBA.¹⁶³ Another example is the *Convention Concerning the Protection of the World Cultural and Natural Heritage*, 1972 and which is concerned with protecting international important cultural and natural heritage sites.¹⁶⁴ In general, a number of ratified international agreements have

Ltd 2017 ZASCA 9 (14 March 2017). This judgment is important in ensuring that protected areas remain protected from the pressures of mining and potentially other habitat destructive activities.

¹⁵⁸ Sections 23-30 of NEMPAA. Any proclamation must be done in a co-operative manner, eg in consultation with national government. On co-operative governance, see the discussion in 2.2.2 and 2.4.2 above.

¹⁵⁹ Sections 38-42 and 43 of NEMPAA.

¹⁶⁰ Section 2 read with s 5 of NEMBA; s 231 of the *Constitution*; SANBI *Biodiversity Mainstreaming Toolbox* 17. This means that the NEMBA is applicable alongside South Africa's ratified international agreements, which are law in the country.

¹⁶¹ SANBI *Biodiversity Mainstreaming Toolbox* 109-112. Also see Kidd *Environmental Law* 45-51, 61-67 for more international instruments to which South Africa is a signatory. Being a signatory means we are a party to the agreement, and does not necessarily make the agreement law in the country.

¹⁶² Glazewski *Environmental Law* 29-30, 50.

¹⁶³ See Devine "International Environmental Law" 156-157; SANBI *Biodiversity Mainstreaming Toolbox* 17.

¹⁶⁴ Glazewski *Environmental Law* 53-54; Paterson "Biological Diversity" 105-109.

influenced and find application in South Africa's biodiversity law framework¹⁶⁵ and the province is required to give effect to them.¹⁶⁶

2.6 Concluding remarks

This chapter has provided a brief overview of South Africa's biodiversity legislative framework and the province's duties flowing from this framework for the regulation and implementation of biodiversity conservation.¹⁶⁷ It must be pointed out that the list of duties below is not exhaustive, and that there are other duties flowing from a variety of other laws which are relevant to and support biodiversity conservation. However, to meet its objectives under the NEMBA, provincial authorities have to implement the provisions of the NEMBA and where necessary it is empowered to give effect to certain duties flowing from the NEMBA, in particular the permitting provisions described in chapter 7.¹⁶⁸ These duties relate to biodiversity in a specific province and include:

- the monitoring of biodiversity and the mitigation of the threats to biodiversity;¹⁶⁹
- the promotion of the conservation and protection of different ecosystems;¹⁷⁰
- the promotion of the sustainable use of listed and protected species;
- the giving of effect to South Africa's international obligations under CITES;¹⁷¹
- the monitoring and management of AIS;¹⁷²

¹⁶⁵ Paterson "Biological Diversity" 105-109.

¹⁶⁶ For example, implementing the world heritage convention takes place through the *World Heritage Convention Act* 49 of 1999, a SEMA under the auspices of the NEMA.

¹⁶⁷ Generally, see para 2.3 above.

¹⁶⁸ See para 2.5.3.8 above.

¹⁶⁹ See para 2.5.3.1 above.

¹⁷⁰ See paras 2.5.3.5 and 2.5.4.2 above. For example, through measures which mitigates habitat loss and fragmentation through the listing of threatened ecosystems, and the declaration of bioregions and protected areas.

¹⁷¹ See para 2.5.3.4 above. Through regulating TOPS and CITES in the province, including the publishing of a province-specific TOPS list.

¹⁷² See para 2.5.3.6 above. Including publishing a province-specific list of invasive species and a respective management plan.

- the regulation of the benefits arising from the use of biodiversity;¹⁷³
- the enforce and monitoring of compliance with the provisions of the NEMBA under the auspices of the NEMA;¹⁷⁴ and
- engaging in co-operative governance, for example consulting the Minister when it comes to regulating biodiversity in the province.¹⁷⁵

It is clear that the NEMBA demands of the province to manage its biodiversity in line with the NEMBA objectives. However, it can be argued that in most instances the NEMBA does not require that provincial governments duplicate its provisions in provincial laws. In other words, there is no requirement that the provisions in the NEMBA and the duties it creates be "re-legislated" by a province.¹⁷⁶ Pertinent to provincial government is that the objectives of biodiversity conservation envisaged in section 24 of the *Constitution* be met, albeit guided by and fully in line with the provisions of the NEMBA.¹⁷⁷ Before discussing the provincial approach to biodiversity conservation, the next chapter explores the state of Gauteng's biodiversity. This is aimed at laying the basis for the later evaluation of the province's biodiversity laws in Chapter 4, in the light of the above duties, in terms of which the province is empowered to legislate.

¹⁷³ See para 2.5.3.7 above. Through regulating the export of these resources for non-bioprospecting purposes.

¹⁷⁴ See para 2.4.3 above.

¹⁷⁵ See the discussion on co-operative governance in paras 2.2.2 and 2.4.2 above.

¹⁷⁶ See the discussion in para 2.2.3 above on concurrent legislative competence regarding biodiversity. The management of biodiversity can be founded in legislation, policies, programmes and guidelines, for example. Therefore, the duties in the NEMBA may be given effect by the province by implementing the NEMBA or by regulating them using provincial laws which may not be in conflict with the NEMBA.

¹⁷⁷ See the discussion in 2.4.2 above on co-operative governance and co-ordination, which may help to prevent the duplication of laws and policies.

3 The biodiversity of the Gauteng Province

3.1 Introduction

Urban areas like those of the Gauteng province contain a mosaic of different habitats, both natural and man-made, which harbour a variety of biodiversity which contributes to the overall biodiversity of the country.¹⁷⁸ However, it can be argued that in general the human activities lead to habitat changes which in turn threaten this biodiversity and the biosphere, on which human beings and other organisms are dependent for their survival.¹⁷⁹

The current biodiversity of Gauteng perseveres in the remaining available habitats, despite the fact that a recent provincial environmental report states that the province's biodiversity is generally threatened and poorly conserved, with more than half of the natural habitat already irreversibly transformed by humans. It is also predicted that if the current rate of human impacts continues, the province risks losing its remaining natural biodiversity habitat outside protected areas in the near future.¹⁸⁰

Against this backdrop, this chapter briefly explores the status of the biodiversity in Gauteng. This is done through an exposition of the general natural features and species richness, as well as the key human-induced threats to this biodiversity. The objective is to highlight the richness and importance of biodiversity in Gauteng and to identify threats where legislative measures of the province are required.

3.2 Landscape, climate and vegetation of Gauteng

The Gauteng province is situated on a high-lying or elevated central part of South Africa commonly known as the Highveld plateau. This landscape generally consists of flat,

¹⁷⁸ DEAT *National Biodiversity Strategy* 44; GDARD *Gauteng State of Environment Report 7*, 24-25; McNeely 2001 Parks 2-3.

¹⁷⁹ GDARD *Gauteng State of Environment Report* 15-18, 111-112; WWF *Living Planet Report 2014* 8, 65; Du Toit and Cilliers "Urban Ecology" 753-780. Urbanisation is the expansion of the built environment, which is often densely populated by people, and supports their livelihoods.

¹⁸⁰ GDARD *Gauteng State of Environment Report* 77.

undulating and mountainous areas and is generally rich in mineral deposits.¹⁸¹ The province has a variant subtropical climate with wet summers and dry winters.¹⁸²

Over eighty per cent of Gauteng's natural habitat is classified as a grassland biome and the remaining twenty percent as a savannah biome.¹⁸³ The savannah biome supports a rich animal diversity and is overall better protected in the country than the grassland biome. The grassland biome with its wealth of species is not well protected in the country and in addition it is the biome where the country's largest human population density is found.¹⁸⁴ The grassland's rich biodiversity is supported through a complex of ecosystems such as wetlands, ridges and rivers. The biome also has a high agricultural potential and a rich variety of mineral deposits. These are some of the factors which have over the years attracted great human interest, resulting in biodiversity conservation's being outcompeted by development and other land-use activities.¹⁸⁵

3.3 Species richness

The biodiversity richness of Gauteng is reflected in the variety of animal and plant life found in the province, and this continues to expand as additional species are being discovered. Furthermore, the province contains more plant species per unit area than any

¹⁸¹ GDARD *Gauteng State of Environment Report 7-12*.

¹⁸² GDARD *Gauteng Environmental Management Framework 30*; *Gauteng State of Environment Report 7-12*, 77. Rich minerals such as gold have over the centuries attracted and contributed to the large-scale developments and land-use changes in the province. SANBI *Biodiversity Mainstreaming Toolbox 15*; Gauteng Department of Agriculture, Conservation, Environment and Land Affairs Date Unknown <http://www.conservancies.org/Downloads/BGAP%20-%20Conservation%20Plan.pdf> 4.

¹⁸³ SANBI 2012 http://bgis.sanbi.org/nba/LIFESateBiodiversity2012_lowres.pdf 12. A biome is described as a community of organisms that are shaped by their environment and generally have a uniform character in appearance. Also see DEAT *National Biodiversity Strategy* 65-67. Grasslands are areas dominated by grass-like vegetation, and a Savannah contains a combination of grass and trees.

¹⁸⁴ GDARD *Gauteng Environmental Management Framework 30*. Also see GDARD *Gauteng State of Environment Report 7-12*; GCIS *Pocket Guide 88*.

¹⁸⁵ Rutherford and Westfall *Biomes of Southern Africa* 50. It is pointed out that only around 1.12% of the country's grassland biome is protected (SANBI *Biodiversity Mainstreaming Toolbox 15*). It is estimated that over 70% of the grassland biome is already transformed - Carbutt and Martindale 2014 *Parks* 105-125; GDARD *Gauteng State of Environment Report 7-12*, 77. Other land-use activities that impact on biodiversity include agricultural and resource extraction through mining.

of the other provinces.¹⁸⁶ This richness of the biodiversity can be witnessed, for example, in the Suikerbosrand Nature Reserve. The reserve is situated in the southern grassland of the province and has over 1114 recorded plant species.¹⁸⁷ The province's overall species count has seen over 3 300 plants species being recorded, with no less than 25 of them being endemic to Gauteng. In addition, there have been over 480 different birds, 125 mammals, 23 amphibians and over 100 reptile species recorded in the province.¹⁸⁸

A number of the species found in the province are facing increasing pressures from development activities and are becoming threatened with extinction.¹⁸⁹ In addition, some species are habitat-specific and in Gauteng these species find themselves in a situation where there is little or no suitable habitat left outside of protected areas, making the remaining habitats inside nature reserves a primary target for conservation efforts.¹⁹⁰ In some instances, the habitats of threatened and habitat-specific species transcend provincial boundaries and extend into protected and un-protected areas.¹⁹¹ The discussion to follow outlines some of the threats facing biodiversity in Gauteng which are driven by

¹⁸⁶ GDARD *Gauteng State of Environment Report* 11-12, 77; SANBI *Biodiversity Mainstreaming Toolbox* 15. Species per unit area means that on average more plants can be found in each area size (unit area) in Gauteng than in an area of comparable size in another province.

¹⁸⁷ GDARD *Integrated Management Plan – Suikerbosrand* 31. Suikerbosrand is less than 18 000 ha in size. It can be argued that it has a high plant species count when compared to, for example, the Kruger National Park, which covers an area of over 2 million ha and has around 1990 plant species. For more on species richness of the Kruger National Park, see SanParks Date Unknown <https://www.sanparks.org/parks/kruger/conservation/scientific/ff/biodiversity>.

¹⁸⁸ GDARD *Gauteng State of Environment Report* 79-80; GDARD *Gauteng Environmental Management Framework* 30-32. An endemic organism is confined or occurs exclusively in a specific geographical area and is not found anywhere else.

¹⁸⁹ GDARD *Gauteng State of Environment Report* 79-80; SANBI *Biodiversity Mainstreaming Toolbox* 15. The International Union for the Conservation of Nature (IUCN) lists species according to the levels of threat they face which impact on their survival in the wild. The categories are Critically Endangered, Endangered, Vulnerable, Near Threatened, and Threatened, amongst others. For more on the listing criteria, see SANBI Date Unknown <http://redlist.sanbi.org/redcat.php>.

¹⁹⁰ See Dimalisile *Report on the Monitoring of the White-tailed Mouse*. Habitat-specific, simply put, means that the creature requires certain elements such as weather conditions, soils etc to survive. Eg the White-tailed mouse is a grassland specialist species and is currently listed as Endangered by the IUCN. Most of its natural habitat has been lost to development, and currently the only confirmed localities of the species in Gauteng is in the Abe Bailey Nature Reserve. For a full list of the IUCN Red List of Threatened Species, Version 2016-2, see IUCN 2016 <http://www.iucnredlist.org>.

¹⁹¹ See Deyssel, Myburgh and Panagos 2017 <https://abcjournal.org/index.php/ABC/article/viewFile/2220/2290> 1-8. The Heidelberg opal butterfly is a species with specific habitat requirements and is found in only a few localities inside and outside protected environments around the southern Gauteng-Mpumalanga border.

human activities. It must be pointed out that not all of the threats discussed here are within the province's regulatory duty emanating from the NEMBA. It is important, however, to highlight these threats, as they directly or indirectly impact on biodiversity and thus may influence the province's role in managing biodiversity.

3.4 Anthropogenic impacts to biodiversity in Gauteng

3.4.1 Impact of high human population

The large population is the primary driver of the anthropogenic threats to biodiversity in Gauteng, which can be seen in changes to the land cover as a result of urbanisation, infrastructure development, agriculture and mining, for example.¹⁹² According to recent assessments, the population of the province is increasing and will continue to do so, primarily driven by the province's economic activities.¹⁹³ The province also faces challenges of high unemployment, high levels of poverty, increasing wealth gaps and inequalities between the rich and the poor as well as challenges of HIV and AIDS, for example.¹⁹⁴ The aforementioned all have implications for the use of natural resources, as the high levels of poverty are linked to people's increased dependency on the natural environment and related pressures on biodiversity.¹⁹⁵ In addition, because biodiversity is often a target for a variety of competing human interests, such interests are often prioritised ahead of biodiversity conservation.¹⁹⁶ For example, in most parts of South Africa economic growth is one such interest often prioritised ahead of environmental interests.¹⁹⁷

¹⁹² GDARD *Gauteng State of Environment Report* 17, 39, 77. Also see Deysel, Myburgh and Panagos 2017 <https://abcjournal.org/index.php/ABC/article/viewFile/2220/2290> 1-8; Paterson "Biological Diversity" 103. A large population leads to an increased demand for development and farm products, for instance, putting more pressure on the biodiversity.

¹⁹³ GDARD *Gauteng State of Environment Report* 7, 23-24.

¹⁹⁴ GDARD *Gauteng State of Environment Report* 17-18.

¹⁹⁵ GDARD *Gauteng State of Environment Report* 7, 23-24. More than half of the country's gross domestic product emanates from Gauteng. People come to Gauteng from all over the country and beyond.

¹⁹⁶ Kokko 2004 <http://www.metsantutkimuslaitos.fi/julkaisut/workingpapers/2004/mwp001-14.pdf> 157; SANBI *Biodiversity Mainstreaming Toolbox* 15.

¹⁹⁷ Katzschner "Planning Perspectives" 410.

3.4.2 *Habitat destruction and fragmentation*

Habitat destruction and fragmentation and in particular the loss of suitable natural habitats are a result of human activities and directly contribute to biodiversity loss in Gauteng.¹⁹⁸ The result is often that habitats are fragmented and disconnected, forming isolated pockets of lands that are not able to meet the needs of many species and are not able to function as ecosystems, which has adverse consequences for biodiversity.¹⁹⁹ Fragmentation can be caused even by small-scale activities such as the construction of a path. The path may prevent the movement of species and therefore limit the exchange of genetic material. Ultimately, there may be a negative impact on the genetic diversity of the species, affecting their resilience to diseases and their ability to adapt to environmental changes.²⁰⁰

Development is an important pillar to achieving the enjoyment of other basic rights²⁰¹ and agriculture is at the forefront of habitat destruction. Agriculture has over time left many of the natural habitats in Gauteng threatened.²⁰² It can be argued that this trend is likely to persist, as most of the land in the province is allocated for agricultural purposes and development.²⁰³

¹⁹⁸ Blackmore 2015 *SAJELP* 89. See para 2.5.3.2; GDARD *Gauteng State of Environment Report* 77.

¹⁹⁹ Bennett *Linkages in the Landscape* 13-41. "Fragmentation" in this context refers to changes in the natural habitat due to the conversion of natural land to agriculture, for instance, often leading to blocks of natural land being separated from one another. It is pointed out that a lack of connectivity in habitats and ecological processes leads to the increased vulnerability of species through the decline in their ability to exchange genes. Also see Paterson "Biological Diversity" 103.

²⁰⁰ Crooks and Sanjayan "Connectivity Conservation" 1-3. This may lead to extinctions and further disturbances in the ecological functioning of the affected areas. Also see Mackey, Watson and Worboys 2010 <http://www.environment.nsw.gov.au/resources/nature/ccandger.pdf> 7.

²⁰¹ See *Fuel Retailers* case paras 44-45. The state has the responsibility of balancing developmental needs and environmental protection.

²⁰² SANBI 2012 http://bgis.sanbi.org/nba/LIFESateBiodiversity2012_lowres.pdf 1. The habitats are now listed as vulnerable, endangered or critically endangered.

²⁰³ See the GDARD *Gauteng Environmental Management Framework*. It outlines the areas in the province where the different levels of development and agricultural practices will be permitted and the areas set aside for conservation purposes.

3.4.3 Environmental modifications

Closely related to development is the extensive alteration of the natural environments in Gauteng through infrastructure expansion. These modifications occur, for example, as a result of the construction of dams, altering the flow of rivers, the clearing of vegetation, the draining of wetlands, and other activities that cause soil erosion, all of which negatively affect the status of biodiversity.²⁰⁴ Over the years environmental modifications have seen over half of the province's natural environment transformed. This transformation has been particularly severe in the grassland biome.²⁰⁵

3.4.4 Over-harvesting of biodiversity resources

Over-harvesting refers to when the extraction or harvesting of resources from nature occurs at a faster rate than the rate at which such resources can be naturally replaced. It is linked to resource demand and is driven among other factors by commercial activity and the demand for medicines, food and fuel.²⁰⁶ It must be pointed out that the current legislative framework makes provision for access to and the commercial use of biodiversity, which is often cited as a means of contributing towards people's socio-economic development.²⁰⁷ However, a major threat is often the illegal harvesting of threatened and rare species.²⁰⁸ For example, cycads are the most threatened plants species in the country, and illegal harvesting has already led to some species becoming extinct.²⁰⁹ Gauteng is one of the largest markets for traded species,²¹⁰ and in addition,

²⁰⁴ DEAT *National Biodiversity Strategy* 84-87; Kidd *Environmental Law* 132. Soil erosion could be one of the most serious threats facing the country's environment, as it impacts not only on biodiversity but also on the agricultural sector.

²⁰⁵ GDARD *Gauteng State of Environment Report* 84.

²⁰⁶ GDARD *Gauteng State of Environment Report* 77-78; DEAT *National Biodiversity Strategy* 69-71; Turpie "Environmental and Resource Economics" 34-67. This is also referred to as unsustainable use, which means that such a resource cannot meet the demands put on it in the long term.

²⁰⁷ The NEMBA calls for sustainable use; see 2.5.2.2 above. The *Bioprospecting, Access and Benefit-Sharing Amendments Regulations*, 2015 (BAPS), TOPS and CITES regulations under the NEMBA regulate biodiversity resource uses. Also see GDARD *Gauteng State of Environment Report* 23-36.

²⁰⁸ McGaw *et al* "Medicinal Plants" 2-10. These are often used in traditional medicine. The trade in wild plant medicine is worth millions and plays an important role in the health of many people; Paterson "Biological Diversity" 103.

²⁰⁹ Sinovas *et al* Southern Africa's Wildlife Trade 84.

²¹⁰ GDARD *Gauteng State of Environment Report* 78.

grassland and savannah biomes are among the most impacted upon by species harvesting.²¹¹

3.4.5 Alien and invasive species

Alien and invasive species (AIS) are having adverse impacts on biodiversity,²¹² and are regarded as amongst the biggest threats to biodiversity.²¹³ Not only do they threaten biodiversity by competing for resources and space with indigenous species, but they also threaten people's economic and social development, for example, through their abilities to intensify the risk of fires, flooding, soil erosion, water loss, and the degradation of agricultural land, thus affecting the economic potential of the country.²¹⁴

AIS are spread throughout much of Gauteng, both in grassland and savannah biomes as well as inside and outside of protected environments.²¹⁵ There are over 215 different AIS recorded in the province, 43 priority invaders in grasslands, and 23 in savannah biomes, including in aquatic habitats.²¹⁶

²¹¹ SANBI 2012 http://bgis.sanbi.org/nba/LIFESateBiodiversity2012_lowres.pdf 47. Grassland, savannah and forest biomes are the biggest contributing biomes to the trade, and more than 10% of the traded plants are threatened; DEAT *National Biodiversity Strategy* 72-78; GDARD *Gauteng State of Environment Report* 78. Examples of traded medicinal plants species include *Drimia sanguinea*, *Hypoxis* spp, and *Boophone disticha*. Those traded for ornamental and commercial purposes include cycads as well as a variety of animal species. Commercial exploitation is a major contributing factor to the biodiversity decline of many species in Gauteng.

²¹² DEAT *National Biodiversity Strategy* 89-94; SANBI 2012 http://bgis.sanbi.org/nba/LIFESateBiodiversity2012_lowres.pdf 43-45; also see para 2.5.3.6 above.

²¹³ Stein "South African Chapter" 51-67; SANBI 2012 http://bgis.sanbi.org/nba/LIFESateBiodiversity2012_lowres.pdf 43-45. It is stated that SA has at least 6602 plant species, 6 mammal species, over 70 invertebrate species, 7 crustacean species, 10 bird species, 22 fresh water fish species, 26 mollusc species, and 6 reptile species of AIS.

²¹⁴ Paterson 2006 *PELJ* 152; DEAT *National Biodiversity Strategy* 89-94; SANBI *Biodiversity Mainstreaming Toolbox* 13. Paterson "Biological Diversity" 103. For example, AIS affect ecosystems services and deprive the country of these services as well as of the amount of money spent annually in controlling AIS.

²¹⁵ For example, see Peacock, Van Rensburg and Robertson 2007 *S Afr J Sci*; Chittenden *Roberts Bird Guide* 306; SANBI 2014 <http://www.sanbi.org/information/infobases/invasive-alien-plant-alert/campuloclinium-macrocephalum-pom-pom-weed>.

²¹⁶ See GDARD *Gauteng State of Environment Report* 82, for a list of priority AIS. Also see SANBI *Biodiversity Mainstreaming Toolbox* 13; SANBI 2012 http://bgis.sanbi.org/nba/LIFESateBiodiversity2012_lowres.pdf 43-45.

3.4.6 Genetically modified organisms

South Africa was the first and is currently the largest producer of genetically modified organisms (GMOs) in Africa.²¹⁷ If left to get into the natural ecosystems, GMOs could potentially pose a threat to indigenous biodiversity.²¹⁸ When these organisms are released into the environment they can jeopardise the genetic integrity of indigenous species, leading to disturbances in the ecological integrity of the natural systems, and can subsequently impact on human health.²¹⁹ In addition, large parts of the available undeveloped land in Gauteng are earmarked for agricultural practices²²⁰ which along with the impact of severe weather conditions, such as droughts, can be argued will lead to increased GMO use in the province.²²¹

3.4.7 Climate change

Climate change is primarily attributed to human activities that are causing the discharge of increasing quantities of greenhouse gases (GHG) and contributes to increased temperatures in the atmosphere. This is projected to negatively affect biodiversity²²² through the loss of species and the reduction and transformation of ecosystems and habitats, particularly in the grasslands biome.²²³ In Gauteng, the impact of climate change is exacerbated by the increased GHG emissions linked to the intensity of the industrial and economic activities taking place in the area.²²⁴ The effects of climate change are

²¹⁷ WFC 2012 http://www.worldfuturecouncil.org/fileadmin/user_upload/PDF/Survey_of_Future_Just_Biodiversity_Policies_and_Laws.pdf 17; Kidd *Environmental Law* 138-193. GMOs are organisms whose genetics have been manipulated by human beings using biotechnology in a way that does not occur naturally through natural propagation. The *Genetically Modified Organisms Act* 15 of 1997 regulates the use of GMOs. It is administered by national government.

²¹⁸ DEAT *National Biodiversity Strategy* 99. Also see the *Cartagena Protocol on Biosafety* (2000) 1; Kidd *Environmental Law* 138.

²¹⁹ Mayet 2000 http://acbio.org.za/wp-content/uploads/2015/02/SA_GMO_Leg_short.pdf 1.

²²⁰ In this regard, see the GDARD *Gauteng Environmental Management Framework*.

²²¹ Also see a recent report by Whittles 2015 <http://ewn.co.za/2015/08/26/SA-farmers-to-use-genetically-modified-products>.

²²² See 3.4 of the NBF.

²²³ DEAT *National Biodiversity Strategy* 94-99.

²²⁴ GDARD *Gauteng Environmental Management Framework* 22. The main contributing factors include energy, transport industry and agriculture.

compounded with other human-induced impacts such as habitat loss and AIS, all of which severely and negatively impact biodiversity.²²⁵ Climate change is predicted to cause changes in biodiversity through habitat changes, impacts on water resources and changes in species diversity, and may even lead to extinctions. All of this is likely to culminate in social economic impacts on society as a whole.²²⁶ Biodiversity conservation is said to be one of the factors mitigating against the impact of climate change through the reduction in habitat loss and fragmentation, the rehabilitation of degraded habitats, the management of species and the promotion of diversity, the monitoring and promotion of ecosystem resilience, the promotion of protected areas networks, the expansion of in *ex situ* conservation, and the promotion of the sustainable use of the biodiversity resource, to name but a few contributory factors.²²⁷

3.4.8 Pollution

Pollution is described as the presence of substances whose composition or quantity negatively impacts the environment in which they occur. Its impacts on the environment are primarily attributed to human activities.²²⁸ Pollution is a big challenge and concern for the country, and is attributed to both historical and current adverse human activities.²²⁹ Pollution is prevalent in Gauteng and is attributed to mining, agriculture activities and urbanisation, which have resulted in habitat loss and long-term disturbance of the natural environment and functioning of the ecosystem.²³⁰ The impact of pollution is said to be particularly severe in aquatic environments, to the extent that the entire river system of Gauteng is in a poor ecological state with relatively low and declining biodiversity.²³¹

²²⁵ Paterson "Biological Diversity" 104.

²²⁶ GDARD *Gauteng Environmental Management Framework* 22; DEAT *National Biodiversity Strategy* 94-99; SANBI *Biodiversity Mainstreaming Toolbox* 11-15. These impacts are predicted to be more severe, particularly in urban environments where human impacts are more prevalent.

²²⁷ Paterson "Biological Diversity" 104; DEAT *National Biodiversity Strategy* 94-99.

²²⁸ See UN Data Date Unknown <http://data.un.org/Glossary.aspx?q=pollution>. Pollution can be on land, in air or water, and includes noise and light pollution.

²²⁹ Kotzé "Regulation of Environmental Pollution" 241-242.

²³⁰ SANBI *Biodiversity Mainstreaming Toolbox* 66. Also see GDARD *Gauteng Environmental Management Framework* 33.

²³¹ GDARD *Gauteng State of Environment Report* 70.

3.5 Importance of biodiversity protection in Gauteng

Most of Gauteng's natural habitat is fragmented and the remaining suitable habitat is largely threatened as explained above, making its protection crucial to the province's biodiversity conservation.²³² The degradation of biodiversity has a direct impact on natural systems, as well as human socio-economic development and wellbeing, because of the essential services biodiversity provides. Examples include the provision of clean air, clean water, raw materials, the prevention of erosion, waste treatment flood attenuation, carbon sequestration, the absorption of excessive heat in the atmosphere, aesthetic value, fuel materials and food.²³³ Taken all in all, biodiversity services and sustains life, and provides a foundation for the enjoyment of other basic rights in the *Constitution*.²³⁴ It is not hard to imagine how important it is that provincial authorities take positive steps towards protection of biodiversity in Gauteng.

3.6 Concluding remarks

Gauteng's large and increasing human population is putting more pressure on the province's biodiversity resources.²³⁵ The impacts to biodiversity from human activities outlined in the preceding discussion are not exhaustive, new or unique to Gauteng,²³⁶ and despite their presence, the province harbours a rich biodiversity.²³⁷ This biodiversity can be enriched and conserved through mechanisms which allow the management of human activities contributing to biodiversity decline in the province, such as activities which contribute to habitat destruction, fragmentation and modification, the over-harvesting of

²³² See paras 2.4.2 and 2.5.3.5 above; Carbutt and Martindale 2014 *Parks* 105-125. It is pointed out that it is important that both *in situ* and *ex situ* conservation are provided for. See Biodiversity White Paper 41; Paterson "Biological Diversity" 99; Glazewski *Environmental Law* 291.

²³³ Turpie "Environmental and Resource Economics" 34-67; SANBI *Biodiversity Mainstreaming Toolbox* 15; GDARD *Gauteng State of Environment Report* 9-23; Paterson "Biological Diversity" 105. Also see ch 2 of the NBF. Furthermore, biodiversity's intrinsic value for human wellbeing is estimated to be worth billions in monetary value.

²³⁴ See *Fuel Retailers* case para 44. The state has the responsibility of upholding the rights in the *Constitution*, eg the environmental right.

²³⁵ See para 3.4.1 above.

²³⁶ SANBI *Biodiversity Mainstreaming Toolbox* 45. It can be argued that these challenges are fueled by the large human population.

²³⁷ For example, see para 3.3 above.

species, and to climate change.²³⁸ It can be argued that not all of these threats can be addressed through implementing measures to protect biodiversity.²³⁹ The provincial government nevertheless has a duty to develop and implement measures which contribute to mitigating the impacts of such activities on biodiversity in the province.²⁴⁰

Bearing these things in mind, the next chapter focuses on Gauteng's current and proposed biodiversity law. The chapter examines the biodiversity conservation approach in the province's laws with the aim of determining the extent to which they fulfil the province's duties as outlined in Chapter 2 above.²⁴¹

²³⁸ See ch 3 of the NBF. These were highlighted as the major concerns for policy interventions for biodiversity protection.

²³⁹ Issues related to human population growth are not regulated in the NEMBA and economic activities are regulated by other laws and implemented by finance and economic departments, for example.

²⁴⁰ Such measures may be through the implementation of the NEMBA, for example, or of province-specific law.

²⁴¹ See para 2.6 above.

4 Biodiversity law of Gauteng

4.1 Introduction

Previously the conservation of nature was the responsibility of each provincial administration, and with no national standard to rely on, each province developed and applied its own conservation laws.²⁴² It is safe to say that the threats to biodiversity conservation pre-*Constitution* were fuelled by the same human activities as today, and it has been long recognised that laws are key in mitigating such human-induced threats.²⁴³ The approach in such conservation laws was to focus on protecting fauna and flora rather than on protecting an ecosystem.²⁴⁴ A number of provinces have already replaced their pre-constitutional laws,²⁴⁵ while others still apply such laws, including Gauteng.²⁴⁶ Although the process of reforming the conservation law in Gauteng is underway, the Ordinance remains in force.²⁴⁷

This Chapter explores the Ordinance and the proposed new biodiversity law, the Bill. The objective of this chapter is to evaluate the conservation approach in the aforementioned laws, in order to determine the extent to which they fulfil the duties of the province pertaining to biodiversity conservation as discussed in Chapter 2 above. The discussion will evaluate the Ordinance and its conservation approach before evaluating the Bill and the proposed biodiversity conservation approach therein. The objective is to evaluate the provincial laws against the duties set out in the NEMBA. These duties relate to the province's role to mitigate against habitat loss and degradation, protect threatened ecosystems and species, manage the impact of AIS, implement and enforce the NEMBA,

²⁴² This was the approach pre-*Constitution*. See Rumsey "Terrestrial Wild Animals" 394-424; Craigie, Snijman and Fourie "Environmental Compliance" 65-102; Kidd *Environmental Law* 100.

²⁴³ See Rabie 1973 *CILSA* 145-198.

²⁴⁴ Glazewski *Environmental Law* 375-376; Kidd *Environmental Law* 100-101. Rumsey "Terrestrial Wild Animals" 394-424. The emphasis in modern conservation is placed on entire ecosystems rather than individual species. In this regard see para 2.1 above.

²⁴⁵ Eg in Limpopo province, the *Limpopo Environmental Management Act* 7 of 2003 replaced the *Nature Conservation Ordinance* 12 of 1983 as the provincial conservation law.

²⁴⁶ Glazewski *Environmental Law* 380; DEAT *National Biodiversity Strategy* 112; Kidd *Environmental Law* 101.

²⁴⁷ See SANBI *Biodiversity Mainstreaming Toolbox* 22.

and generally conserve biodiversity in the province, thus giving effect to the country's international biodiversity conservation obligations.²⁴⁸

4.2 Nature Conservation Ordinance 12 of 1983

4.2.1 Overview

The Ordinance consolidates laws relating to nature conservation.²⁴⁹ It targets several human activities and regulates them, using a permit system to do so.²⁵⁰ It provides for the regulation of nature reserves, animals and plants, fisheries and caves, and deals with administrative matters as well. However, when one goes through the definition clauses it becomes evident that some key words are not defined. A substantial part of the Ordinance is dedicated to regulating hunting activities, and some of the terms used are outdated.²⁵¹ It does not provide sufficiently for the consultative process and does not provide for co-operative environmental governance with other spheres of government.²⁵² In addition, the Ordinance is not aligned with provisions of the NEMA or any of the SEMAs, and therefore is not enforced under the auspices of the NEMA.²⁵³ The following discussion provides a general look at the conservation approach to be found in the Ordinance.

²⁴⁸ See para 2.6 above.

²⁴⁹ See the preamble to the *Nature Conservation Ordinance* 12 of 1983 (hereafter the Ordinance).

²⁵⁰ Glazewski *Environmental Law* 375; Kidd *Environmental Law* 100. The permitting system allows people to obtain licences or permits stipulating conditions for a variety of activities. For instance, the permit stipulates methods of hunting, species, numbers, seasons and places. It also prescribes a fee to be paid to the MEC. The system can aid in conservation by raising funds, can keep track of legally exploited species and numbers, and can aid in getting an idea of what is happening with the regulated species and hunting activities. This can in turn inform regulatory objectives.

²⁵¹ Section 1 of the Ordinance. Such words related to hunting include but are not limited to definitions of angle, lure, bait, client, fish, tackle, biltong, open season, professional hunter, hunting outfitter, weapon, hunting area, etc. In addition, the Ordinance still incorporates species of neighbouring states and refers to such states using their pre-independence names, eg South West Africa as opposed to Namibia. There is no definition of "nature" or "conservation" and reference is made to "problem animals", as oppose to "damage causing" animals (as used in the NEMBA).

²⁵² For example, the NEMBA provides for a consultative process between the different spheres of government responsible for biodiversity. Thus, s 70(3) of NEMBA requires agreements between the Minister and MEC for listing invasive species in a province.

²⁵³ For example, see para 2.4.3 above. The NEMA allows the appointment of EMIs across all three spheres of government, and provides guidelines for the enforcement of all environmental laws by the EMI.

4.3 The nature conservation approach in the Ordinance

4.3.1 Administration

Administration is entrusted to the provincial department, headed by the MEC. Essentially, the MEC is the highest conservation authority and is empowered to regulate anything pertaining to conservation in the province. No mechanisms are provided through which to challenge the MEC's decisions. The powers of the MEC include the declaration of nature reserves, their management, the issuing of permits, the listing of regulated species and the appointment of nature conservators, to name but a few.²⁵⁴

4.4 Conservation division, boards and committees

The Ordinance provides for the establishment of the Nature Conservation Division (NCD), a nature conservation advisory board and committees. The advisory board and committees' role is to investigate, control and administer matters affecting the advancement of nature conservation through administration and enforcement.²⁵⁵ There is no specific reference to planning and monitoring in the Ordinance.²⁵⁶

4.5 Establishment of nature reserves

The MEC is empowered to declare nature reserves on any land and has wide discretion on the extent of such declarations.²⁵⁷ There are no other forms of protected areas in the

²⁵⁴ Sections 101-107 of the Ordinance. This means that the MEC can make regulations for all conservation-related aspects in the province. These powers of a nature conservator include, without a warrant, entering any property at any time, interrogating, seizing, investigating, and demanding information from any person, amongst other powers. The same powers are afforded to private land owners in relation to their land. It must be pointed out that ss 31A-31L of NEMA and by implication the NEMBA, requires the training and appointment of different grades of EMIs, with specific powers and duties and in respect of specific SEMAs. The NEMA does not extend such powers to ordinary citizens.

²⁵⁵ Sections 5-11 of the Ordinance. The MEC fills the vacancy within the NCD, determining the powers, qualifications and duties of all personnel within nature conservation. The roles of these establishments are not clear from the Ordinance, and in addition, the establishments themselves are not well defined.

²⁵⁶ Also see para 2.5.3.1 above on planning and monitoring.

²⁵⁷ Section 14 of the Ordinance.

Ordinance,²⁵⁸ except implied protection on private land afforded to land owners.²⁵⁹ Nevertheless, it is submitted that areas under the Ordinance's formal protection contribute to biodiversity conservation.²⁶⁰

4.6 Specific nature conservation aspects in the Ordinance

4.6.1. Wild animals

Chapter 3 of the Ordinance regulates wild animals. The chapter contains the most provisions in the entire Ordinance. A wild animal is any vertebrate, which includes birds and reptiles but excludes fish.²⁶¹ The approach taken in the Ordinance is to categorise listed wild animals in different Schedules, all of which are regulated through a permit system.²⁶² The regulated activities include hunting, the possession of game, importing and exporting animals in and out of the province, selling animals, the poisoning of game, conveying exotic animals and other aspects relating to exotic animals, amongst others. In addition, the chapter also regulates hunting weapons, methods of hunting, hunting times and seasons, and prohibited devices pertaining to hunting, and makes it an offence to be in possession of a weapon on land where game is likely to be found without a relevant permit.²⁶³

²⁵⁸ Also see para 2.5.4.2 on the protected areas approach in the NEMPAA.

²⁵⁹ Glazewski *Environmental Law* 378-379. In this way landowners also enjoyed greater access to and use of the species on their land.

²⁶⁰ It was argued above that protected areas are crucial to biodiversity. See para 2.5.4.2 above.

²⁶¹ Section 1 of the Ordinance. The list of wild animals is further subdivided into schedules, each comprising of descriptions of related permissible activities with accompanying conditions. For instance, Schedule 2 lists protected game (eg all indigenous snakes and roan antelope), Schedule 2A lists specially protected game (eg elephants and rhinos), Schedule 3 lists ordinary game (eg geese and franklins) while Schedule 4 lists protected wild animals (eg wild dogs, lions and buffalos), Schedule 5 lists animals to which certain provision of the Ordinance apply, Schedule 6 lists exotic animals, Schedule 7 lists invertebrate and Schedule 8 lists problem animals. See further ss 15-50 of the Ordinance for more regulated activities.

²⁶² Sections 16-19 of the Ordinance. None of the schedules in the Ordinance take into account national law. For example, they contain species most of which are already listed and regulated in the NEMBA.

²⁶³ Sections 20-29 of the Ordinance. What constitutes a device is not clearly defined. Therefore, it can be argued that it includes anything capable of catching any wild animal, eg a bird. Other provisions regulate the hunting of wild animals by certain methods including tranquilisers, luring or baiting, and the catching of game and exotic animals. The MEC is empowered to declare an animal exotic and appoint or instruct any person to eradicate such an animal.

The Chapter empowers the provincial authority to enter any property for the conservation or control of any animal, which includes problem animals, for research purposes.²⁶⁴ This Chapter complements the provisions regulating species that require regulations under the NEMBA, such as AIS, and endangered and rare species under TOPS and CITES regulations, for example.²⁶⁵

4.6.2. Fisheries

Chapter 6 regulates aspects relating to fish and some prohibited activities in the aquatic environment, including pollution.²⁶⁶ The current extent of protection provided in Chapter 6 applies to more than 30 water bodies or watercourses. Most of these water resources are no longer within the jurisdiction of Gauteng province.²⁶⁷ The provision also prohibits any form of pollution of the aquatic environment.²⁶⁸ This includes the release of any material or substance which may endanger aquatic organisms, including any breeding or releasing of invasive plants into the aquatic environment.²⁶⁹ This section contributes to the control of alien species in the aquatic environment, the prevention of pollution and the control of the harvesting of fish.²⁷⁰

²⁶⁴ Sections 30-46 and 55-57 of the Ordinance. Permission from and consultation with the landowner is not a pre-requisite for entry to the land, this today maybe challenged in terms of the *Constitution*. Exotic animals to which the chapter apply are listed in Schedule 6 of the Ordinance. Also see chapter 4, which regulates hunters, hunting-outfitters and hunting rights. Reference is made to "problem animals" which are listed in Schedule 8. However, the Ordinance does not define "problem animal" is. Schedule 8 however lists of animals such as Chacma baboon, Vervet monkey, Black-backed jackal, Caracal and Bush pig. Ss 58-66 provides for the composition, conduct and financial matters of hunting clubs.

²⁶⁵ See para 2.5.3.4 above.

²⁶⁶ Glazewski *Environmental Law* 377-378; ss 67-83 of the Ordinance. Landowners are exempted from this chapter, and this can arguably lead to unregulated damage to these aquatic environments, which can affect other users of the aquatic systems, eg downstream of a river.

²⁶⁷ This is an example of outdated provisions in the Ordinance. Schedule 9 lists eg the Sabie River, the Komati River etc, which are all outside the province.

²⁶⁸ Section 84 of the Ordinance.

²⁶⁹ Sections 84-85 of the Ordinance. The current list of invasive aquatic plants includes Kariba weed, Azolla, Water lettuce, Water hyacinth, Pond weed and Parrots feather. All these are also regulated under the current AIS regulations. Also see Meyer and Roos "Hazardous Substances Management" 685.

²⁷⁰ Generally, see the discussion in para 2.6 above. Pollution is one of the major impacts affecting biodiversity. See the discussion in 3.4.8 above.

4.6.3. Plants

Plants are regulated in Chapter 7 of the Ordinance. The Chapter contains a list of regulated activities which may not be carried out without authorisation. These include, for example, harvesting, selling or trading, possessing, growing, conveying, or picking listed species, as well as the regulation of nurseries.²⁷¹ The MEC is required to publish a list and regulate protected and specially protected plants.²⁷² Land owners are exempt from permit requirements and as such they may carry out regulated activities without a permit.²⁷³ The picking of indigenous plants in a nature reserves is prohibited without authorisation, on public roads as well as on any land.²⁷⁴ The import and export of protected plants into and out of the province,²⁷⁵ including endangered and rare species listed under CITES, is also prohibited.²⁷⁶ The provincial authority is empowered to list and regulate aspects related to plants in the province, for example, the trading and harvesting of protected species.²⁷⁷ It could be argued that the application of this chapter to protected species could lead to the duplication of regulations pertaining to protected species, particularly where species are listed under both the Ordinance and TOPS.²⁷⁸

4.6.4. Cave environments

Cave environments are regulated in Chapter 9 of the Ordinance. The Chapter prohibits certain activities in the cave environments without a permit, including the entering of

²⁷¹ See ss 86-98 of the Ordinance.

²⁷² The chapter provides for protected plants in Schedule 11 and specially protected plants in Schedule 12 (s 86 of the Ordinance). Schedule 11 contains the list of protected plants (eg all species of Yellow wood - *Podocarpus* spp). Schedule 12 is specially protected plants (eg all species of cycads (*Encephalartos* spp)).

²⁷³ Section 87 of the Ordinance. Eg they may harvest species and clear vegetation for agriculture or development. In the absence of other provisions protecting ecosystems or habitats, this freedom to clear vegetation by land owners can lead to the destruction of habitat.

²⁷⁴ Sections 88-90 of the Ordinance. A permit and/or landowners' permission is required for activities related to indigenous plants.

²⁷⁵ Sections 91-93 of the Ordinance.

²⁷⁶ Sections 97-98 of the Ordinance.

²⁷⁷ Generally, see para 2.5.3.4 above.

²⁷⁸ See the discussion in 2.5.3.4 above. Therefore, guidelines preventing duplication are required. For example, the Ordinance could apply to species not listed under TOPS, to avoid the duplication of regulation. Also see the discussion in 2.4.3 above on the EMP.

caves, the removal of or trade in cave species and formations, and the making of disturbances in the general cave environments.²⁷⁹ The application of this chapter empowers the province to regulate caves as a specific environment and to protect them from destruction and degradation, thereby providing protection to the species inhabiting them.²⁸⁰ The regulation of caves in the Ordinance is important, because the section protects all caves in the province, even those on private land, for example and also because there is no single national law applicable to caves, except where such caves are to be found in a protected environment, or declared as heritage, in which case the NEMBA, the NEMPAA or the relevant heritage law applies.²⁸¹

4.6.5. International obligations

Chapter 8 of the Ordinance gives effect to the implementation of CITES and provides that CITES-listed species in the province are protected by the Ordinance. In addition, changes to the CITES list are also affected in the province.²⁸² The implementation of CITES allows the province to give effect to the country's international biodiversity obligations.²⁸³ The Chapter meets the requirements of the NEMBA, which require that the province regulates the import and export of CITES-listed species into the province. However, it does not regulate the possession, conveying of or trade in such species within the province.²⁸⁴ The implication is that once a CITES-listed species is in the province, there is no further regulation in the Ordinance as to what happens to such a species. It can be argued that this lack of regulation presents a potential for breeding and trade in CITES species within

²⁷⁹ Section 99 of the Ordinance. One of the few instances in which ecosystems are specifically protected.

²⁸⁰ For example, see para 2.5.3.5 above.

²⁸¹ The *World Heritage Convention Act* 49 of 1999 is the SEMA applicable primarily to regulating heritage, including caves declared as heritage. The biodiversity in the cave is protected by the NEMBA and the NEMPAA.

²⁸² Sections 97-98 of the Ordinance. Amendments to the CITES list are also affected as amendments to the provincial list. Also see para 2.5.3.4 above.

²⁸³ See para 2.6 above.

²⁸⁴ Section 98 of the Ordinance. This provision does not empower the authorities to manage these species once they are in the province.

the province, which may impact on the province's reporting obligations under the NEMBA.²⁸⁵

4.6.6. Concluding remarks

The review of the Ordinance reveals that there is a strong emphasis on the utilisation of wild animals and plants and it covers a wide range of activities related to this utilisation. It covers a wide range of activities and complements the application of the NEMBA as in the provisions relating to hunting and fisheries, which contain specific details.²⁸⁶ However, there is not enough emphasis on the conservation of the ecosystem, particularly outside of protected areas, and the Ordinance's provisions do not adequately meet the requirements of the NEMA principles such as sustainable development, for example.²⁸⁷ It can be argued that the Ordinance does not sufficiently provide for oversight activities on private land, and that this may negatively impact on biodiversity.²⁸⁸ In addition, the MEC is the highest decision maker on conservation matters and is given unlimited powers without review procedures, as required in administrative laws, for example.²⁸⁹

Furthermore, the Ordinance contains several outdated terms, and it does not define certain key words used in its provisions.²⁹⁰ There are certain provisions which may be

²⁸⁵ See discussion in 2.5.3.4 above read with s 3(5) of CITES, which requires the province to keep records of permits and individual specimens, for example.

²⁸⁶ See the discussion under paras 4.6.1 and 4.6.2 above. For example, hunting weapons, methods of hunting, hunting times and seasons are all regulated in the Ordinance.

²⁸⁷ Section 2 of NEMBA requires the protection of biodiversity and its components as a whole, including those components not targeted for exploitation, for example. See para 2.5.2.2 above. Sustainable development requires that there should be access to and benefit sharing of biodiversity resources. See para 2.5.3.7 above.

²⁸⁸ See para 4.6.3 above. Land owners are exempted from permits for activities on their land.

²⁸⁹ See para 4.3.1 above. The absence of oversight of the MEC's powers has the potential to lead to misuse of the powers in a society where the *Constitution* and administrative legislation play a definitive role. Nevertheless, all administrative decisions are subject to review by higher institutions or the courts. See *Zondi v MEC for Traditional and Local Government Affairs* 2006 3 SA 1 (CC) para 108. Furthermore, ss 113 and 114 of the Ordinance exempt the state from liability. Such exemptions could also attract constitutional challenges. In some instances, similar provisions on the liability of the state have been successfully challenged in the courts. In this regard, see *Nyathi v MEC for the Department of Health Gauteng* 2008 5 SA 94 (CC) para 18.

²⁹⁰ See para 4.2.1 above. Definitions of what constitutes conservation, nature, disturb, permission, qualification or problem animals, amongst others, are not provided.

susceptible to constitutional challenges.²⁹¹ In other instances, provisions have wide application. For example, it is an offence to be in possession of any device intended or suitable for catching wild animals on any land where such wild animals are likely to be found without a permit or written permission.²⁹² The Ordinance lacks a provision supporting co-operative environmental governance, and its enforcement regimes are not similar to those in national laws, therefore creating a system of enforcement of conservation law parallel to that of the NEMBA. Furthermore, it provides penalties weaker than those of the NEMBA, which may not deter non-compliance.²⁹³

The current biodiversity law of Gauteng is under revision. It is in this context that the next discussion looks at the newly proposed provincial biodiversity law.

4.7 The Gauteng Nature Conservation Bill, 2014

4.7.1 Introduction

The introduction of the Bill by the Gauteng province is long overdue and is a significant development for biodiversity protection in the province. When passed, it will not only replace the Ordinance, but it will be an extension to the country's biodiversity laws passed under the *Constitution*. It is therefore important that the content of the Bill be evaluated as it can potentially play an important role in complementing the overall purpose of the NBF.²⁹⁴ The aim of this section is therefore to evaluate the content of the Bill in relation to province's duties in the NEMBA, highlighted above.²⁹⁵

²⁹¹ For example, some provisions create a reverse onus on the accused person; see ss 37, 83 and 95 of the Ordinance. It is worth noting that in some past court cases, similar provisions have been declared unconstitutional. Also see *S v Manamela* 20001 SACR 414 (CC) para 59.

²⁹² See para 4.6.1 above; s 22 of the Ordinance. It must be pointed out that wild animals include species of birds, lizards and snakes. These are often found in public areas such as roads and parks in and outside nature reserves. Therefore, it can be argued that such a provision has unlimited scope of application and may be susceptible to constitutional challenges.

²⁹³ See para 4.2.1 above.

²⁹⁴ See para 2.5.3.1 above on the general role of the NBF.

²⁹⁵ See para 2.6 above.

4.7.2 Scope and objectives

Section 2 of the Bill outlines its objectives:

- (a) *to provide for the management and conservation of biodiversity, indigenous wild animals, plants, aquatic biota, invertebrates and their associated habitats in the Province;*
- (b) *to provide for the management and control of alien species in the Province;*
- (c) *to secure ecologically sustainable development and responsible use of natural resources in the Province;*
- (d) *to generally contribute to the realisation of the fundamental right contained in section 24 of the Constitution; and*
- (e) *to strengthen national legislation and give effect to ratified international agreements affecting nature conservation and biodiversity management which are binding on the Republic of South Africa.*²⁹⁶

It is evident from the above that the objectives of the Bill mirror those of the NEMBA.²⁹⁷

In addition, the Bill provides that its provisions must be read in conjunction with the provisions of the NEMA and the SEMAs.²⁹⁸ In so doing, the Bill potentially encourages harmonisation and seem to encourage the avoidance of fragmentation.

4.7.3 The Bill's approach to biodiversity conservation

4.7.3.1 Administration of the Bill

The MEC may make any regulation regarding any matter required or permitted in the Bill for the effective conservation of biodiversity in the province. This includes publishing norms and standards related to the management of biodiversity in the province.²⁹⁹ Unlike the provisions in the Ordinance which exempted the state, the Bill binds the state with regards to any actions executed under the Bill in the jurisdiction of the Gauteng province.³⁰⁰ In addition, all state actions taken in term of the Bill are subject to administrative principles and review processes.³⁰¹ In general, the Bill is applicable

²⁹⁶ Section 2 of the Bill.

²⁹⁷ In this regard, see 2.5.2.2 above.

²⁹⁸ Sections 2-3 of the Bill; s 1 specifically refers to SEMAs, being the NEMBA and the NEMPAA.

²⁹⁹ Sections 88-91 of the Bill.

³⁰⁰ Section 104 of the Bill. This means that the state is not excluded from complying with the provisions of the Bill, and that the state must not act beyond the powers provided to it in the Bill.

³⁰¹ Sections 94 and 95 of the Bill. Eg ss 19 and 52 require that due regard be paid to the principles of PAJA. For more on administrative law, see Hoexter *Administrative Law* 58-59. It is pointed out that the

alongside the NEMBA. It provides for penalties on a par with those in the NEMBA and other national environmental laws.³⁰² This eliminates the potential parallel enforcement mechanisms in the Ordinance, and therefore may be a better deterrence to non-compliance than in the Ordinance.³⁰³

4.7.3.2 Nature conservators

Chapter 9 of the Bill regulates aspects related to nature conservators. The MEC may appoint nature conservators to exercise the powers and functions conferred on them under the Bill.³⁰⁴ The conservators are given a wide range of powers including powers under certain sections of the *Criminal Procedure Act* 51 of 1977 (CPA), subject to being appointed peace officers. A nature conservator may under certain circumstances and subject to the issuance of search warrants conduct searches, arrest, inspect, confiscate and conduct investigations etc.³⁰⁵ A reading of the general powers of a nature conservator under the Bill reveals that the powers mirror those of the EMIs under the NEMA.³⁰⁶ It appears therefore that the nature conservators under the Bill may also be appointed or

control of administrative action is a safeguard against the abuse of public power and allows other procedures such as public participation, consultations, the right to information, public hearings, written comments and appeals.

³⁰² Section 101 of the Bill; for example, the general penalty carries a range of fines, some linked to the specific species or restricted activity, as well as an imprisonment of up to 15 years under some provisions. This is comparable to s 101 of NEMBA, for instance, which provide for fines of up to R10 million or imprisonment of up to 10 years or both. Similar penalties are also imposed under s 49B of NEMA.

³⁰³ Section 111 of the Ordinance provides for a general penalty which may not exceed R750 or 9 months imprisonment or both.

³⁰⁴ Section 81 of the Bill.

³⁰⁵ Section 1 of the Bill defines a peace officer as a person appointed under the *Criminal Procedure Act* 51 of 1977 (the CPA). According to the CPA, a peace officer includes for example any magistrate, police official, justice, and correctional official. Therefore, a peace officer can be described as a person having authority as a result of having been appointed under a certain law.

³⁰⁶ Section 82 of the Bill provides that a nature conservator may exercise all the powers of a police officer who is not a commissioned officer in terms of chs 2, 5, 7 and 8 of the CPA. In similar wording, s 31H of NEMA provides the general powers of an EMI and s 31H(5) specifically provides that an EMI "must be regarded as being a peace officer and may exercise all the powers assigned to a peace officer, or to a police official who is not a commissioned officer, in terms of Chapters 2, 5, 7 and 8 of the CPA".

competent to enforce the NEMBA, for example.³⁰⁷ This is different from the current position under the Ordinance, which does not provide for similar enforcement authority.³⁰⁸

4.7.4 Specific biodiversity conservation aspects in the Bill

4.7.4.1 Wild animals and alien animals

Part 1 of Chapter 2 contains regulations pertaining to wild animals and protected birds and empowers the MEC to publish a list of protected indigenous wild animals and birds. These are species that require legislative interventions to ensure their protection, and the management of which has to be ecologically sustainable.³⁰⁹ The MEC may further categorise and publish a province-specific list of protected wild animals or birds, but such a list shall exclude species listed under the NEMBA. This is an important provision aimed at avoiding a duplication of species which are already regulated in national law.³¹⁰ The section complements the NEMBA by providing for the listing of species which may not be listed in TOPS. Chapter 2 targets restricted activities involving protected species, which it regulates through a permit system. The Bill provides that without a permit no person may undertake restricted activities.³¹¹ Restricted activities include hunting, keeping, importing and exporting into the province, catching, transporting, trading and capturing any specimen listed under this section.³¹² In addition to the permits issued under this section, the written permission of the landowners on whose land the protected animal or bird is found may also be required. This complements the NEMBA and tightens the provision of the Ordinance in that all activities, even on private land are subject to a permit, where in

³⁰⁷ The empowering provisions in the Bill are very similar to those of the EMI in the NEMA. It has been pointed out that the Ordinance was not aligned with or enforceable under the NEMA. In this regard see para 4.6.6 above.

³⁰⁸ See para 4.3.1 above.

³⁰⁹ Section 4(1) of the Bill. These are species in the province with great high conservation value and of great importance, facing a high risk of becoming extinct in the wild.

³¹⁰ Sections 4(2)-(5) of the Bill. The published list is reviewable at least every five years. Also see the introductory remarks in 4.7.1.

³¹¹ Section 5 of the Bill.

³¹² Sections 5 read with s 1 of the Bill. A specimen means any animal or plant, or their respective parts at any stage of their life cycles, including eggs, seeds, or any product containing any derivate of such an animal or plant, including genetic material, as well as any packaging indicative of such a derivative. This definition and the list of restricted activities are similar to those in the NEMBA.

the Ordinance, land owners could permit certain activities on their land in the absence of a permit.³¹³ In part 2, the Chapter further empowers the MEC to regulate aspects related to hunting activities involving protected wild animals and birds. These include the time of day to hunt, the hunting season, the number of animals or birds to be hunted in a day, the methods of hunting and the kinds of weapons to be used, for instance.³¹⁴

Part 3 of Chapter 2 contains regulations pertaining to alien animals. In consultation with the Minister, the MEC may publish a list of alien animals for the province. The list must be reviewed regularly and may not include species listed in section 67(1) of the NEMBA.³¹⁵ The Bill therefore allows the MEC to contribute to the regulation of AIS as required in NEMBA.³¹⁶ The Bill defines alien animals as species not having their natural distribution in South Africa,³¹⁷ it must be pointed out that this is different from the definition in the NEMBA.³¹⁸ This section of the Bill complements the NEMBA, the requirement that there must be concurrence with the Minister before listing of species in the province will ensure duplication of listed species in the NEMBA is avoided.³¹⁹ For example, the Bill specifically exclude species listed in section 67(1) of the NEMBA, these are species which are prohibited in the country and for which permits may not be issued, for example.³²⁰ This section of the Bill allows the province to regulate aspects related to alien species. The Bill provides that the MEC may make regulation to control, eradicate any wild animal or alien animal "which may be harmful or detrimental to the existence of any other species of wild

³¹³ Sections 6 and 9 of the Bill. It is worth noting that the NEMBA provides, for example, that consultation and agreement with landowners is required in certain instances when it comes to undertaking activities on such land. However, unlike in the Ordinance, landowners cannot do or permit restricted activities in respect of protected species on their land without permits; in this regard, see eg para 4.6.3 above.

³¹⁴ Sections 7-14 of the Bill. These regulated activities are similar to those regulated under the Ordinance.

³¹⁵ Sections 15 of the Bill. S 67(1) of NEMBA provides for species in respect of which a permit may not be issued.

³¹⁶ Sections 65-68 of NEMBA. See 2.5.3.6 above on the regulatory competency of AIS.

³¹⁷ Section 1 of the Bill states that "alien animal" refers to any live vertebrate, be it a mammal, bird, reptile and amphibian, which is not a recognised domestic species and the natural distribution of which is not found in South Africa, excluding a fish.

³¹⁸ See para 2.5.3.6 above. The NEMBA definition includes species whose natural range is in South Africa and which have been translocated to another part of the country.

³¹⁹ See section 79 of NEMBA, for eg requires consultation before publication of notices by the MEC and Minister.

³²⁰ See Notice 4 of the AIS List which lists prohibited species under s 67(1) of NEMBA.

animal..."³²¹. Although not specifically stated, the reading of this provision can be construed to include reference to invasive species.

Part 3 of chapter 2 also provides for restricted activities which may not be undertaken without a permit, such as importing and keeping or breeding listed alien animals. In addition, the granting of permits under this section may be subject to a risk assessment.³²² The section provides a duty of care and provides that authorised persons must take all steps necessary to minimise or prevent their activities involving alien animals from causing harm to biodiversity.³²³ There are general provisions which regulate among other things the keeping and release of wild animals in captivity, transporting, importing into the province, poisoning and conveying dead game. There are also regulations pertaining to auctions, the documentation of traded animals, and game farm permits.³²⁴ Part 5 of Chapter 2 provides the powers of the MEC, which include powers related to the control of alien animals, the breeding of species for conservation purposes, the import or export of species, and the making of regulations for any matter under Chapter 2.³²⁵

The application of Chapter 2 therefore enables provincial authorities to regulate the sustainable use of wild animals in the province,³²⁶ and complements the regulation of protected species in TOPS. However, it is arguable that the regulation of invasive animals

³²¹ Section 32 of the Bill. See the discussion in para 2.5.3.6 above; ss 70(1)-(3) of NEMBA on the regulatory duties pertaining to invasive species. The Bill provides makes reference to invasive animals under s 19, in relation to the duty of care provision when dealing with alien animals.

³²² Section 16 of the Bill. A risk assessment highlights the potential impact of the activities on biodiversity. Furthermore, a landowner, within the provision of the section, may permit the hunting of alien animals on his/her land. Ss 17-18 prohibits the release of any alien animals in the province except in captive environments, and the MEC may publish a list of alien species which are totally prohibited.

³²³ Section 19 of the Bill. Contravention of the section must be dealt with in line with the provisions of the PAJA. The permit holder is responsible for any harm to biodiversity and any costs associated with any remedial steps taken by the authorities.

³²⁴ Sections 20-23 of the Bill. These activities are all subject to permits.

³²⁵ Sections 30-34 of the Bill. Offence and penalties are provided for in ss 34-35. Contravention of the chapter may carry up to 10 years imprisonment and a fine or both imprisonment and a fine.

³²⁶ See the discussion in paras 2.6 and 3.4.4 above.

in the Bill may fall short of what is called for in the NEMBA, this because the Bill specifically makes reference to alien animals in Chapter 2 and not necessarily to invasive animals.³²⁷

A significant development is that the Bill includes CITES-listed species in the definition of alien species. This by implication allow the activities related to the CITES-listed species, to be regulated in the similar fashion as alien animals which was not the case under the Ordinance.³²⁸

4.7.4.2 Hunting profession

The hunting profession is regulated in Chapter 6 of the Bill. The chapter makes it an offence for anyone to act as a professional hunter (PH), hunting outfitter (outfitter) or a trainer without a licence. The MEC is empowered to exempt certain persons from the requirements of the section³²⁹ and may make regulations related to any activities under Chapter 6.³³⁰ The provisions in this chapter are similar to those in the Ordinance, but the Bill introduces trainers and training requirements associated with the hunting industry, which was not the case under the Ordinance. This chapter complements the NEMBA as it allows the province to regulate at a more detailed level species which are not listed under the NEMBA regulations, for example.³³¹

³²⁷ The Bill define alien animals as an animal which is not indigenous and natural distribution not in the n republic. It defines invasive as any animal whose establishment is outside its natural range, threatening biodiversity or harm human health and economy, for example. It was pointed out above that not all alien species are invasive, and NEMBA specifically requires the regulation of invasive species posing threat to biodiversity, some which may be indigenous but translocated to a different part of the country, for example. Therefore, the Bill should regulate invasive species, irrespective of whether they are alien or indigenous. See para 2.5.3.6 above.

³²⁸ See paras 2.5.3.4 and 4.6.5 above. For example, activities involving CITES-listed species within the province, such as breeding, possessing and trading, are now regulated.

³²⁹ Sections 64-66 of the Bill. All hunts by a client must be organised by the outfitter and must be accompanied by a PH, who must ensure that the client complies with the conditions of the permits. In addition, all outfitters must be holders of hunting rights when conducting their business, including activities such as advertising such business.

³³⁰ Section 67 of the Bill. Regulated activities are for example training, registering, making appointments and following procedures when an animal is wounded. Offences and penalties are given in s 68. Contravention of the provisions in the chapter is an offence and may carry stipulated fines of up to R250 000, or imprisonment of up to 10 years or both a fine and imprisonment.

³³¹ Although the NEMBA protects all biodiversity, the Minister may under s 97(1)(b) make regulations for the use of biodiversity, including for the hunting industry. The current regulations made by the Minister

4.7.4.3 Regulation of zoos

Chapter 8 regulates zoos and provides that no one may, without a permit, establish and operate a zoo or similar institution such as a bird garden, reptile or snake park. The MEC may make any regulation related to the establishment and effective implementation of these institutions.³³² This chapter is different from the regulation in the Ordinance, which does not contain a chapter on zoos but rather regulates zoos under the same umbrella as other similar entities, without a distinction in the objectives of the entities.³³³ This chapter complements the regulations by the Minister under the NEMBA regulating issues related to such establishments.³³⁴ The provisions of Chapter 8 of the Bill will enable the provincial authorities not only to manage species but also to promote education and research as well as to actively conserve biodiversity.³³⁵

4.7.4.4 Protected and indigenous plants

Chapter 3 regulates protected plants. The MEC may publish a list of protected plants of provincial importance, being any indigenous plant in the province facing a high risk of extinction in the wild or having high conservation value, or that requires legislative measures to ensure that it is protected and managed in an ecologically sustainable manner.³³⁶ The aforementioned list excludes species listed under the NEMBA and it must be reviewed at least every five years.³³⁷ The section complements the list of protected species by adding those species which may not be listed in TOPS. The chapter provides a

are primarily targeted at listed species under CITES, AIS and TOPS. The Bill therefore can provide for specific aspects and species not necessary covered under the NEMBA regulations.

³³² Sections 78-79 of the Bill. A zoo is defined in s 1 as "a permanent sited and legal establishment primarily open to and administered for the visiting public where wild and alien animals are exhibited for the purpose of education and research and biodiversity conservation and where the principle business rationale is not the commercial trade ... and excludes nature reserves, game farms, botanical gardens, plant nurseries, research laboratories, circuses, pet shops, animal dealerships/brokers and commercial breeding operations that are not open to the public, animal rehabilitation facilities and sanctuaries ...".

³³³ Other similar entities may be established for commercial purposes, whereas the above definition provides that a zoo is primarily for educational and conservation purposes.

³³⁴ See s 59(a) of NEMBA, which requires the Minister to monitor and regulate such institutions, including zoos.

³³⁵ See para 2.6 above.

³³⁶ Section 36 of the Bill.

³³⁷ Section 36 of the Bill. This excludes species listed in TOPS.

list of restricted activities involving protected plants, which activities may not be undertaken without a permit. The restricted activities include plucking, selling, possessing, conveying, receiving or donating and importing or exporting, amongst others.³³⁸ The chapter also prohibits the picking of any indigenous plants without a permit, if the picking occurs on a road, within a 50 metre buffer of a natural water course, in a protected area, on a large scale or for commercial purposes.³³⁹

The MEC may make regulations or take the steps necessary to promote research or control the propagation of any plant in the province, including measures to control weed or alien plants, and other measures necessary to promote the conservation of plants in the province.³⁴⁰

Chapter 3 empowers the MEC to make a variety of regulations pertaining to management of plants. However, chapter 3 does not extensively provide for the regulation of alien or invasive plants in the province. The section make reference to the MEC's powers to make regulations for the "destruction or combating of a plant that could be harmful to environmental conservation...."but without excluding species already listed in NEMBA, for example.³⁴¹ The aforementioned may lead to a situation the MEC may list species already listed under other sections of the NEMBA.³⁴² Unlike the Ordinance, the Bill does not exempt private land owners from getting permits for undertaking listed activities which may impact plants on their land.³⁴³ Chapter 3 provides for penalties which are similar to those

³³⁸ Section 37 of the Bill. The chapter exempts a person in possession of a protected plant growing in its natural habitat. It exempts certain categories of persons who source plants from a legal source, such as registered nurseries and botanical gardens, from certain activities. Persons relying on exemption are required to produce documentary proof of their acquisition of the plant.

³³⁹ Section 38 of the Bill. The section further prohibits the collection, transport of or removal of indigenous plants from land, except by the owner or after getting the permission of such an owner.

³⁴⁰ Sections 39-40 of the Bill. Offences and penalties are provided in s 41. Any contravention of the chapter is an offence and carries a penalty of imprisonment of up to 10 years and a fine or both imprisonment and a fine.

³⁴¹ Section 40 of the Bill. Plants that may cause harm to the environment can be construed to mean both alien and invasive species. This distinction is not clear in the Bill, although it is provided in the NEMBA. See ss 65-68 of NEMBA and para 2.5.3.6 above on the regulatory competency of AIS.

³⁴² Section 40 of the Bill.

³⁴³ See para 4.6.3 above. This is a positive development of the Bill.

in the NEMBA.³⁴⁴ Overall, the chapter provides better regulation of protected plants than the Ordinance, and it provides for more species in Gauteng that could be protected than those listed in the NEMBA.

4.7.4.5 Aquatic biota and aquatic systems

Chapter 4 of the Bill regulates aquatic environments. "Aquatic biota" refers to any organisms that depend on the aquatic environment for their survival, including any part or derivative of such an organism. Aquatic systems are areas associated with water, such as rivers, lakes, pans, dams and wetlands, for example.³⁴⁵

Part 1 of the Chapter regulates protected fish, and the MEC may publish a list of protected indigenous fish species, being any indigenous species facing high risks of extinction or having high conservation status or high provincial importance and which require regulation to ensure that they are protected and managed in an ecologically sustainable manner. In addition, such a list must be reviewed at least every 5 years and excludes species listed in NEMBA.³⁴⁶ The section also complements and adds to the national list of protected species of indigenous fish which may not be listed under TOPS. The chapter provides for a list of restricted activities involving indigenous fish, which may not be undertaken without a permit. These include importing, exporting, catching, transporting, keeping, trading in, or releasing a specimen of protected fish.³⁴⁷

Part 2 of Chapter 4 regulates alien fish. In consultation with the Minister, the MEC may publish for the province a list of alien fish. The list must be regularly reviewed, and excludes species listed under section 67(1) of the NEMBA.³⁴⁸ The section also prohibits

³⁴⁴ Section 41 of the Bill. For instance, contraventions of the chapter carry various fines and/or prison sentences of up to 10 years.

³⁴⁵ See the definition in s 1 of the Bill. This does not include marine environments, which are regulated under the *Marine Living Resources Act* 18 of 1998. See Kidd *Environmental Law* 127. For example, this includes eggs, roots, hair and seeds, amongst others.

³⁴⁶ Section 42 of the Bill.

³⁴⁷ Section 43 of the Bill. It excludes angling, which refers to the catching of a fish using a line and a hook.

³⁴⁸ Section 44 of the Bill. In general, the section is worded in a manner similar to that of the section on alien animals above. See for instance the discussion in paras 2.5.3.6 and 4.7.4.1 above. See ss 65-68 of NEMBA on the regulatory competency of AIS.

the importing into or releasing of any specimen of an alien fish in any aquatic system in the province without a permit.³⁴⁹

Part 3 of Chapter 4 pertains to aquatic environments. It provides that no-one may cause an obstruction of a spawning area, obstruct the flow of water in, damage or cause destruction to an aquatic system.³⁵⁰ In addition, the pollution of aquatic environments is prohibited. The section provides that no-one may cause or allow the deposit of harmful solids or liquids or gaseous substances into aquatic systems or biota, or destroy or cause damage to an aquatic habitat or the associated vegetation.³⁵¹ Restricted activities related to live fish include importing, exporting or transporting, spawning, releasing or placing in water, live fish without a permit.³⁵² The MEC is provided with general powers including to make regulations for the management, protection or conservation of any aquatic system or associated biota in the province.³⁵³

At first it appears that the section in general duplicates the regulation in national law, but it complements national law by placing further emphasis on nationally regulated activities.³⁵⁴ Overall, Chapter 4 provides better regulation of the aquatic environment than

³⁴⁹ Section 45 of the Bill.

³⁵⁰ Sections 46-48 of the Bill. Angling is subject to a season declared by the MEC. In addition, poisoning or catching fish with a set line and angling in a protected area are prohibited. The provisions do not apply to artificially created ponds surrounded by land. The possession of fish traps or similar devices on land where an aquatic system occurs is prohibited without the landowner's permission or permits.

³⁵¹ Section 49 of the Bill. This includes carrying on businesses which release any harmful substances into the aquatic environments. Also see para 2.6 above. It is important to note that at a national level water bodies and pollution prevention in aquatic ecosystems are regulated by different legislation pertaining to water. S 19 of the *National Water Act* 36 of 1998, for example, provides that anyone carrying out activities which might pollute water must take all reasonable measures to prevent any pollution from occurring, continuing or recurring. Similar provisions are also found in the *National Environmental Management: Waste Act* 59 of 2008, where s 16 provides for the general duty of care to prevent waste from polluting the environment.

³⁵² Section 50 of the Bill. An exception to this is the catching of and releasing of a fish immediately in the same waters, alive. S 51 prohibits the sale or buying of protected fish without a permit or of any other fish caught in contravention of any law.

³⁵³ Sections 52-54 of the Bill. Offences and penalties are provided for in s 55. Contravention of the chapter is an offence and may carry a penalty of a fine or imprisonment ranging from 100 days to 15 years or both a fine and imprisonment.

³⁵⁴ In other words, unlike the previous provisions on alien animals, plants and fish, the section does not specifically call on the MEC to directly regulate such activities which are already provided for in the national laws.

the Ordinance and complements the existing national laws and empowers the province to regulate aquatic environments.³⁵⁵

4.7.4.6 Invertebrates

Chapter 5 of the Bill regulates invertebrates and Part 1 of the chapter is dedicated to protected invertebrates.³⁵⁶ In consultation with the Minister, the MEC may publish a list of protected indigenous invertebrates, being any species of indigenous invertebrates facing a high risk of extinction, of great importance to the province, or of high conservation status, or that requires regulation to ensure its protection and management in an ecological sustainable manner. Furthermore, the aforementioned list must be reviewed at least every five years and shall not include those species listed under the NEMBA.³⁵⁷ The section complements the NEMBA by providing for the listing of species which may not be listed in TOPS. The section provides for restricted activities which may not be undertaken without a permit, which include collecting, keeping, purchasing, donating, carrying, selling, conveying, importing, exporting, transporting, catching, killing, harming or damaging a specimen of or a colony of protected invertebrates.³⁵⁸

Alien invertebrates are regulated in Part 2 of the chapter. In concurrence with the Minister, the MEC may publish a list of alien invertebrates, which excludes species listed under the NEMBA.³⁵⁹ The section provides a list of restricted activities and provides that without a permit no one may import into the province any alien invertebrate for commercial, entomological or collection purposes. In addition, a permit may be subject to a risk assessment highlighting the potential impact of the invertebrates on biodiversity.³⁶⁰ The

³⁵⁵ See para 2.6 above.

³⁵⁶ Section 1 of the Bill defines an invertebrate as an animal which does not have an internal skeleton, and gives the examples of insects, spiders and earth worms. This includes their eggs, larvae, or any life stage, and irrespective of whether they are dead or alive.

³⁵⁷ Section 56 of the Bill. The exclusion is for species listed under TOPS.

³⁵⁸ Section 57 of the Bill.

³⁵⁹ Section 58 of the Bill.

³⁶⁰ Section 59 of the Bill.

listing of other alien species in the province by the MEC is in similar fashion as those of other sections above.³⁶¹

Part 3 of the chapter provides the powers of the MEC, which include the powers to make regulations in respect of any invertebrate and activity in the province.³⁶²

This Bill improves on the regulation of invertebrates, as there is no chapter on invertebrates in the Ordinance, or on the related restricted activities.³⁶³ The Bill will allow the provincial authorities to target specific species of invertebrates in the province which are threatened and which may not be listed in NEMBA, and will require the province to monitor and manage such invertebrate species.³⁶⁴

4.7.4.7 Caves and cave environments

Chapter 7 regulates cave environments, the preservation of caves, cave formations, cave biota and karst systems.³⁶⁵ Provision is made for restricted activities, which may not be undertaken without a permit. These include entering, inhabiting, building any form of facility at a cave, altering a cave, establishing commercial ventures in a cave, conducting research in a cave, and collecting any material from the cave.³⁶⁶ In addition, the Bill also

³⁶¹ Generally, see the above discussion on alien animals and fish; ss 65-68 of NEMBA; and para 2.5.3.6 above on the regulatory competency of AIS.

³⁶² Sections 60-62 of the Bill. The MEC may provide exemptions, promote conservation, research, and control measures, amongst other measures. Offences and penalties in contravention of the section are provided for in s 63. Penalties carry a fine or imprisonment of up to 10 years or both a fine and such imprisonment.

³⁶³ In the Ordinance invertebrates are regulated within the provisions of other chapters, such as the chapter on wild animals and caves.

³⁶⁴ The chapter is important and adds value when it comes to protecting the specific habitat of threatened invertebrates. For example, the Alice Glockner Nature Reserve was primarily proclaimed to offer protection to rare invertebrate species. For more on the reserve, see GDARD Date Unknown <http://www.gdard.gpg.gov.za/Services/Documents/AliceGlocknerNatureReserve.aspx>. Also see Deysel, Myburgh and Panagos 2017 <https://abcjournal.org/index.php/ABC/article/viewFile/2220/2290> 1-8.

³⁶⁵ Section 1 of the Bill. A "cave" is defined as a natural geologically formed or manmade cavity beneath or above the surface of the earth. "Karst" refers to any geological region that is dominated by water-soluble formations such as dolomite and limestone, and in which water processes have played and continue to play a role in its formations. This includes areas classified as karst by authority on official records.

³⁶⁶ Section 69 of the Bill.

prohibits breaking any part of a cave or a cave formation, leaving any objects in a cave, disturbing a cave, collecting biota, making marks in cave, and depositing in, near or at the entrance of a cave any material, for example.³⁶⁷ In addition, there are further restrictions relating to cave formations and features. For example, there is the restriction of trading, importing or exporting, removal, keeping or transporting of any cave formation or biota without a permit and in some instances written permission.³⁶⁸ In consultation with relevant stakeholders, the MEC may make regulations related to the management and conservation of a cave and cave systems, including commercial activities associated with the cave.³⁶⁹

Caves are regulated too. However, unlike the provisions in the Ordinance, the Bill includes the protection of the whole cave ecosystem and also provides heavier penalties than the Ordinance does. Chapter 7 of the Bill is important as it allow the province to regulate cave environments and cave-related activities, thereby contributing to the protection of sensitive and vulnerable ecosystems and species which may not adequately be protected in national laws.³⁷⁰

4.7.5 Concluding remarks

The review of the Bill in this chapter leads one to conclude that the Bill is targeted at similar biodiversity aspects as the Ordinance.³⁷¹ However, the Bill addresses a number of additional matters. These include: the alignment of biodiversity conservation objectives to the NEMBA and to therefore section 24 of the *Constitution*; providing protected areas through the NEMPAA; making the state the custodian of biodiversity; improving on the definitions section by eliminating the older terminology in the Ordinance; broadening the

³⁶⁷ Section 70 of the Bill. The section refers to objects. It can be argued that the phrase "foreign objects" could be more encompassing.

³⁶⁸ Section 71 of the Bill. Construction at cave entrances, admission to caves and the obligation to notify the department of the existence of caves on any land, for example those discovered during construction activities, are provided for in ss 72-74.

³⁶⁹ Sections 75-76 of the Bill. Offences and penalties are provided for in s 77. Contravention of the chapter carries a fine and imprisonment of up to 10 years or both a fine and imprisonment.

³⁷⁰ In general, see paras 2.6 and 4.6.4 above.

³⁷¹ In this regard, the Bill covers the same issues as those in the Ordinance. For example, wild animals, plants, caves, fisheries and nature conservators, amongst others.

approach to conservation by referring to the sustainable use of biodiversity; making all provisions subject to administrative laws and providing for review mechanisms; providing for co-operative governance and consultative processes when regulating biodiversity; aligning enforcement mechanisms and penalties with those in national laws; providing for a mechanism to avoid the duplication of regulation by excluding certain species listed in the NEMBA; providing for more offences and severe penalties, as in the NEMBA; providing for the oversight of activities on private land; and providing an altogether new chapter on invertebrates.

Although the Bill amounts to an improvement in the approach to conservation in Gauteng, there remain areas of concern. For example, some definitions need to be properly aligned with those in national laws and certain terms require to be defined *ab ovo*.³⁷² In addition, there need to be clarity on the alien species provisions, in order to ascertain whether they are, inclusive of invasive species or only alien species.

The discussion below with which this study concludes will focus on the duties of the Gauteng provincial government pertaining to biodiversity conservation, as outlined in Chapter 2, and will assess the extent to which these duties are heeded in the Bill. The chapter will also make some recommendations based on the discussion in Chapters 2 to 4.

³⁷² For example, the definition of alien requires clarity in relation to that of the NEMBA.

5 Conclusion and recommendations

5.1 Background

The objective of this study was to critically evaluate the existing and proposed Gauteng biodiversity law against the conservation regulatory duties of the province, as explicitly and implicitly stated in the national biodiversity law framework of South Africa. By way of a literature review, the study began with a discussion of the *Constitution*, the NEMA and the NEMBA, and a brief overview of the NEMPAA, all the while looking at the respective duties carved out for the province for biodiversity conservation. Attention was paid to the biodiversity of Gauteng and some threats to this biodiversity before turning to a discussion of the current and proposed Gauteng laws for biodiversity. The rationale for and relevance of this study lie therein that the biodiversity of Gauteng is increasingly threatened by human activities and therefore requires legislative (and other) measures targeted at such threatening activities for its protection. These measures are also called for in constitutional right of the people of South Africa in section 24(b) of the *Constitution*.

Chapter 2 outlined the legislative framework for protecting biodiversity, as founded in section 24 the *Constitution*, read with Schedule 4A. A reading of the *Constitution* reveals that both national and provincial spheres governments share the responsibility of making laws pertaining to biodiversity in the country. In addition, all spheres of government are required to co-operate in biodiversity conservation, without impeding the responsibilities of one another.³⁷³ The national government sets the overall biodiversity policy framework which guides the province in its biodiversity management approach.³⁷⁴ This can be seen, for example, in the NEMA, which set in motion a process for achieving government's obligation in terms of section 24 of the *Constitution* by enunciating uniform principles for application in conservation, and giving guidelines to be followed in all state actions

³⁷³ See paras 2.2.1-2.2.32.2.3 above.

³⁷⁴ See paras 2.3.1-2.3.3 above. Both the national and the provincial biodiversity legislative frameworks must be considered by local government in their development planning for matters affecting the environment.

impacting on the environment.³⁷⁵ The principles call for measures which among other things provide for the protection of biodiversity and the sustainable use of biodiversity resources, and which must be given effect to by the province.³⁷⁶

The Chapter also looked at the Biodiversity White Paper and the role it envisaged for the different government spheres engaged in biodiversity conservation.³⁷⁷ The chapter then turned to examine the NEMBA. It was submitted that the NEMBA is the national primary biodiversity-specific law, that it introduced a uniform standard of biodiversity management across the country, and that it aimed at harmonising South African biodiversity laws. Accordingly, the state is the custodian of biodiversity and therefore responsible for its management.³⁷⁸ National government is the primary custodian of the NEMBA, but this responsibility is shared with the provinces. It was pointed out that the NEMBA also finds application among provincial laws.³⁷⁹ The NEMBA makes it a requirement that provinces implement planning and monitoring measures for mitigating threats to biodiversity.³⁸⁰ In consultation with the national department, the regulation of each of the substantive matters in the NEMBA provides a role for the province. The province is required to manage biodiversity by targeting the conservation of entire ecosystems, habitats and indigenous species, by promoting the sustainable use of biodiversity resources, by managing AIS, by giving effect to ratified international biodiversity agreements binding the state, and by enforcing compliance with the NEMBA.³⁸¹ In addition to the NEMBA and in order to further meet the conservation objectives, the NEMPAA empowers provinces to declare certain categories of protected areas within their jurisdiction, and provides that the province is responsible for the management and protection of the biodiversity in such declared areas.³⁸²

³⁷⁵ See para 2.4.1 above.

³⁷⁶ See para 2.4.2 above.

³⁷⁷ See paras 2.5.1.1-2.5.1.3 above.

³⁷⁸ See paras 2.5.2.1-2.5.2.2 above.

³⁷⁹ See para 2.5.2.3 above.

³⁸⁰ See para 2.5.3.1 above.

³⁸¹ See paras 2.6 and 2.5.3.2-2.5.3.8 above.

³⁸² See para 2.5.4.1-2.5.4.2 above.

Chapter 3 discussed the biodiversity of Gauteng province and highlighted the threats thereto.³⁸³ It was pointed out that the two biomes in the province, Savannah and Grassland, support a rich variety of biodiversity which is increasingly under threat from human activities such as development,³⁸⁴ habitat destruction, the over-harvesting of biodiversity resources, AIS, GMO, climate change and pollution.³⁸⁵ The chapter also highlighted the importance of biodiversity and the need to conserve it for the essential services people derive from it and its role in the maintenance of the biosphere.³⁸⁶

Chapter 4 examined the current biodiversity law of Gauteng, the Ordinance - and the Bill. It was found that the Ordinance has largely remained unchanged in its narrow approach to conservation, with its emphasis on species and their utilisation, and with insufficient provision for the conservation of ecosystems as a whole.³⁸⁷ In general, it was pointed out that the Ordinance lacked sufficient protection of biodiversity, in particular outside nature reserves, and it did not properly regulate CITES-listed species, particularly within the province. It does not provide for the exclusion from listing of species already listed in the NEMBA, it gave unlimited powers to the MEC in an absence of review or oversight processes, it contained an array of outdated terms, it made no reference to co-operative governance and consultative processes, it empowered ordinary citizens in similar fashion to conservators, and was not aligned with national environmental and administrative laws.³⁸⁸ Conservation under the Ordinance would not adequately conform to the principle of sustainable development, for example. The continued use of obsolete terms such as "problem animals", the weak regulation of activities on private land which might be detrimental to biodiversity were problematic. The lack of oversight of the powers exercised under the Ordinance created a potential for the abuse of power. There was a no conformity with the biodiversity standard set in the NEMBA, for example. The Ordinance in effect provided for an alternative conservation management, separate from the national

³⁸³ See para 3.1 above.

³⁸⁴ See para 3.2 above.

³⁸⁵ See paras 3.4.1–3.4.8 above.

³⁸⁶ See para 3.5 above.

³⁸⁷ See para 4.1 above.

³⁸⁸ See para 4.6.6 above.

framework. There was a potential for a duplication in the regulation of species already listed under NEMBA, a high risk of non-compliance due to the weak penalties it established in respect of offences, and it did not provide for different protected environments, as called for in the NEMPAA.

The chapter then proceeded in similar manner and discussed the proposed biodiversity conservation law of Gauteng. In general, the Bill targets the same aspects of biodiversity conservation as the Ordinance.³⁸⁹ However, the Bill provides an additional chapter dedicated to invertebrates and improves on the overall approach to conservation in that it is aligned to national environmental laws. This can be seen, for example, in the fact that the objectives of the Bill mirror those of the NEMBA in fulfilling the state's duties called for in section 24 of the *Constitution*.³⁹⁰ Many of its definitions are similar to those in the NEMBA. It supports a broader approach to conservation, as envisaged in the NEMBA. For example, it subscribes to the principle of sustainable use. It provides oversight over the powers of the MEC, in that all actions taken under it are subject to review processes and the principles of administrative law in PAJA. It provides for public consultation and co-operative governance between the MEC and the Minister, which may limit possible duplication in regulating aspects already listed under the NEMBA and provided for under the MEC's regulatory function in the NEMBA. Its enforcement provision, penalties and the powers of officials it provides mirror those in prevailing national environmental laws. In general, the Bill regulates all biodiversity and provides better oversight on activities affecting biodiversity, including on private land. It improves on the regulation of CITES-listed species, and provides for better ecosystem protection through the recognition of the different protected areas called for in the NEMPAA.³⁹¹

³⁸⁹ For example, both laws have chapters on animals, hunting, plants, fisheries and caves to name but a few topics.

³⁹⁰ See para 4.7.2 above.

³⁹¹ In this regard, see paras 4.7.1-4.7.5 above.

5.2 Summary of findings

On the basis of the review of the Ordinance and Bill, in comparison with the provisions of the NEMBA, it is possible to summarise Gauteng's existing and proposed biodiversity law profile in the table below, as follows:

NEMBA Requirement of province	Response in 1983 Ordinance	Response in 2014 Bill
Mechanisms for monitoring of biodiversity and research into biodiversity, to provide reports to Minister.	MEC empowered and may require monitoring and research of different species. <ul style="list-style-type: none"> • No requirement to report to Minister. 	MEC must monitor and conduct research for different aspects of biodiversity. <ul style="list-style-type: none"> • Must provide reports to Minister.
Mechanisms to manage and mitigate the threats to biodiversity. <ul style="list-style-type: none"> • Produce BMP, for example; • Must submit to Minister. 	MEC empowered to provide regulation for any aspect related to conservation, including mitigation measures. <ul style="list-style-type: none"> • No requirement to produce BMP; • Not required to submit to Minister. 	MEC must provide management measures for biodiversity. <ul style="list-style-type: none"> • Provincial biodiversity management plans; • BMP must be submitted to Minister.
Promote the management, conservation and protection of different ecosystems in the province. <ul style="list-style-type: none"> • For example, declare bioregions. 	MEC empowered to declare nature reserves and regulate conservation matters in the province.	MEC must regulate activities in protected areas in the province. <ul style="list-style-type: none"> • Empowered to declare and manage different protected ecosystems in line with the NEMBA and the NEMPAA.

Promote sustainable use of biodiversity in the province in line with the NEMA, for example.	<p>MEC is empowered to regulate all aspects related to conservation.</p> <ul style="list-style-type: none"> • Permits system to control sustainable use, for example for animals, plants, alien species, fisheries and caves; • Not aligned to the NEMA principles; • Weak regulation on land outside protected areas and on private land. 	<p>MEC is empowered to regulate activities related to wild animals and birds, plants, AIS, fisheries, invertebrates and caves.</p> <ul style="list-style-type: none"> • Permit system to control sustainable use; • Aligned to the NEMA principles; • Permits required for the use of biodiversity on all land.
Contribute to the conservation and protection of threatened species in the province.	<p>MEC is empowered to regulate all aspects related to conservation in the province.</p> <ul style="list-style-type: none"> • Schedules with listed protected species; • Permits system for listed species; • Listing not considered in the light of the NEMBA. 	<p>The MEC is empowered to regulate and list protected species.</p> <ul style="list-style-type: none"> • List of restricted activities; • Schedules of listed species; • Listing must be considered in consultation with Minister and with consideration of the NEMBA.

<p>Protect biodiversity from the threats of AIS.</p> <ul style="list-style-type: none"> • List invasive species in the province. 	<p>MEC is empowered to regulate all aspects related to conservation in the province.</p> <ul style="list-style-type: none"> • List alien and invasive species; • Provide for prohibited activities with alien species; • List of species not considered in the light of the NEMBA. 	<p>The MEC is empowered to regulate.</p> <ul style="list-style-type: none"> • Must provide a list of species which may threaten biodiversity in the province; • Restricted activities the same as those in the NEMBA; • Listing must be considered in the light of the NEMBA.
<p>Manage access to biodiversity and benefit sharing of biodiversity in the province.</p>	<p>The MEC is empowered to regulate through a permit system.</p> <ul style="list-style-type: none"> • Access to biodiversity resources, for commercial and non commercial purpose, for example. 	<p>The MEC is empowered to regulate through a permit system.</p> <ul style="list-style-type: none"> • Facilitate access to biodiversity; • Input into permits related to non-bioprospecting activities under the NEMBA.

Give effect to South Africa's international obligations under CITES.	<p>MEC regulated through a permit system all import and export of CITES-listed species in the province.</p> <ul style="list-style-type: none"> • Does not regulate other activities such as trade within the province, for example. 	<p>Through a permit system MEC regulates CITES-listed species and associated activities in the province: import, export, trade, breeding, possession, for example.</p> <ul style="list-style-type: none"> • CITES-listed species provided for under provisions governing alien species.
Monitor and enforce compliance with the NEMBA in line with the NEMA.	<p>Not aligned to the NEMBA or the NEMA.</p> <ul style="list-style-type: none"> • Separate enforcement regime to that in the NEMA; • Powers of enforcement officers not aligned with those of EMI in the NEMA, for example; • Penalties for contraventions not similar to those in the NEMBA and weaker than those in national environmental laws. 	<p>Bill applicable in line with provisions of the NEMA and the NEMBA.</p> <ul style="list-style-type: none"> • MEC empowered to appoint EMI to specifically monitor compliance and to enforce the NEMBA; • Powers of enforcement officers similar to those of EMI in the NEMA; • Penalties for contraventions similar to those in national environmental laws.

To consult with the Minister when it comes to regulating biodiversity in the province.	Not required to consult with the Minister. <ul style="list-style-type: none"> • The MEC is the highest authority on conservation. 	The MEC must consult with the Minister for the listing of species in the Bill. <ul style="list-style-type: none"> • Must consult the Minister when making any changes to such lists.
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Table 1

It is clear that the Bill does provide for the duties allocated to the province in the NEMBA for the conservation of biodiversity. The implication of this finding is that the Bill moves Gauteng's biodiversity law away from its pre-constitutional approach, which did not conform to uniform national standards, and is in line with the prevailing national framework, with the principles prescribed in the NEMA and the objectives of the NEMBA.

In general, the Bill addresses what is required of the MEC when it comes to legislating biodiversity in the province, in that such legislation must be in line with the *Constitution* and must not be in conflict with national laws such as the NEMBA. This is an important requirement of the *Constitution*, as demonstrated by the following quote of a court judgment regarding pre-constitutional conservation law. The court held in *Khohliso v S* 2014 ZACC 33 (2 December 2014) para 53 that:

It is rather odd that – 20 years into our constitutional democracy – we are left with a statute book cluttered by laws surviving from a bygone undemocratic era remembered for the oppression of people; the suppression of freedom; discrimination; division; attempts to break up our country; and military dictatorships. When these laws determine criminal liability, the situation looks even worse. It is not clear from the facts of the matter why this is the case. It is clear, though, that people like Ms Khohliso and the rest of us – and indeed our much-valued vultures and other wildlife – deserve to be guided and protected by democratically elected Legislatures through clearer laws on a cleaner statute book.

Furthermore, conservation in the province is now subject to a compulsory consultative process between the Minister and the MEC. This supports the requirement of co-operative environmental management, which is aimed at harmonising the biodiversity legislative

approach and limiting the potential duplication and fragmentation of biodiversity management across the different implementing government spheres. There will also be a more streamlined enforcement mechanism, as the conservators in the Bill may also be competent to enforce the NEMA, which is not the case under the Ordinance.

In general, the duties placed on the province are provided for directly, through the listing of protected species, for example, and in other instances these duties are provided for indirectly through other provisions. For example, CITES-listed species are by implication included under the alien species provision. It is safe to say that the Bill provides a mechanism aimed at mitigating the threats to biodiversity through providing for the monitoring of biodiversity, the promotion of the conservation of protected species, the protection of different ecosystems, restricted activities for AIS, sustainable use, and the promotion of the sharing of the benefits of biodiversity, giving effect to South Africa's international obligations under CITES.

In some instances, the Bill even goes beyond what is called for in the NEMBA by providing for those aspects not necessarily covered under the NEMBA - the conservation of cave environments, for example. In other instances, the Bill complements the NEMBA by providing more details for aspects related to the hunting of wild animals, for example. It can be concluded, then, that the Bill improves on the conservation currently provided under the Ordinance.

5.3 Recommendations

The following recommendations are made to the Gauteng province (GDARD) and the MEC for environment. The purpose of the recommendations is to aid the MEC, to strengthen the Bill as the proposed biodiversity conservation law, as an outcome of the analysis

performed in this study. Before the Bill becomes law, the following should be considered:³⁹²

- The Ordinance should clearly reflect the distinction between alien and invasive species, and invasive species regulation should be reflected in all chapters regulating species.
- Define or describe "commercial purpose", "nature", and "conservation" or "nature conservation" in the Bill.
- The destruction or disturbances of habitat should be included under the definition of "restricted activities"
- The definition of "trade" should include a reference to invasive species. The reference currently made is to alien species only.
- The definition of "derivate" should include a reference to genetic material, as provided for in the NEMBA.
- The definition of "firewood" is to be applicable to all different collection purposes rather than to domestic use only.
- The definition of "bait" should reflect the use of sound (as provided for in the restricted hunting methods).³⁹³
- The definition of "poison" should include a reference to indigenous plants, as opposed to animals only.

³⁹² It must be pointed out that at the time this study was undertaken there were no regulations or schedules published under the Bill, and it is therefore not known to what extent such regulations may address some of the recommendations herein.

³⁹³ See s 12(1)(o) of the Bill.

5.4 Concluding remarks

This study has showed that the NEMBA empowers the Minister and MEC to legislate biodiversity in the province and to consult each other when exercising such powers. In the light of the discussions in Chapters 2 to 5 above, the finding of this study is that the conservation approach in the Bill, when it is implemented, will adequately provide a platform for Gauteng to meet its biodiversity conservation duties envisaged in the NEMBA (as well as in the *Constitution* and overarching international biodiversity law). It is important, however, that before the Bill becomes law the recommendations above be carefully considered.

Admittedly, this study focused on the Bill in its current form and therefore does not give a complete picture of Gauteng's new biodiversity law, in the absence of schedules or regulations under the Bill. It is imperative that any schedules or regulations to the Bill should be assessed in future to ascertain if they further complement or strengthen the Bill and the overall conservation of biodiversity in the province.

This study is hopefully not the last word out on the biodiversity law of Gauteng. It is hoped that scholars and the provincial authorities will commit to continued research in this area to ensure legal and policy reform and an adequate (provincial) government response to the threats posed to biodiversity in South Africa.

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