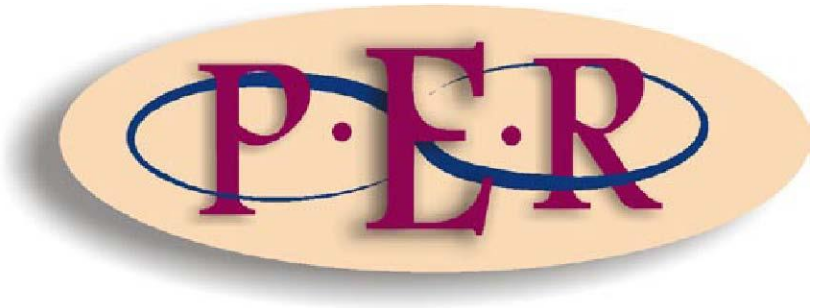
Author: JC Knobel

THE CONSERVATION STATUS OF EAGLES IN SOUTH AFRICAN LAW

ISSN 1727-3781



2013 VOLUME 16 No 4

http://dx.doi.org/10.4314/pelj.v16i4.5

THE CONSERVATION STATUS OF EAGLES IN SOUTH AFRICAN LAW*

JC Knobel**

1 Introduction

In most countries where eagle species occur, they are the largest actively hunting carnivorous birds, and in many cultures humans respond in a dualistic and polarised manner to these avian predators. At the one extreme, many people admire eagles for their impressive appearance, physical strength, and powers of flight. Cultural expressions of human admiration of eagles include the deifying of eagles in ancient religions, the use of eagles in heraldry and advertising, and the portrayal of eagles in art and publications. At the other extreme, many people, especially those involved in small-stock and poultry farming, respond to the size, strength and carnivorous habits of eagles by regarding them as enemies or vermin, because they perceive eagles as a threat to their economic and other interests.[1] This duality in human perception of eagles is also prevalent in South Africa, and it complicates their conservation.[2] It also produces a challenge to the legislature and those tasked with the enforcement of environmental legislation. This challenge is not singular to eagles, and is readily apparent in respect of carnivorous mammals too, but the mobility of eagles and other birds of prey means that they cannot be restrained by fencing national parks and other protected areas, and this adds a compounding element in the case of these winged predators.

This contribution is an introductory survey and evaluation of the conservation status of eagles in South African law. Its aim is, first, to provide an overview of the laws relating to the conservation of eagles in South Africa, and, second, to offer critical

* Financial support of the National Research Foundation of South Africa is gratefully acknowledged. The views expressed here are those of the author and should not be attributed to the National Research Foundation.

** JC Knobel. BLC (Pret), LLB (Pret), LLD (UNISA). Professor of Private Law, University of South Africa. Email: knobejc@unisa.ac.za.

1 Burnham "Raptors and People" 170 *et seq*; Katzner and Tingay "Eagle Diversity, Ecology and Conservation" 1-2.

2 Butchart (ed) *Eagles and Farmers* i; Tarboton *Eagles* 4-5, 32-33.

remarks on the effectiveness and sufficiency of those laws. As will be elaborated upon shortly, not all the eagle species occurring in South Africa are resident birds. Some species are migratory and others are nomadic. Hence, the environmental law regime in force in South Africa has an influence on the conservation status of some eagle species breeding as far away as Europe and Asia.

The methodology employed was primarily an interdisciplinary literature study. Legal materials as well as texts from the natural sciences were consulted. The results are presented in three sections. In the first section (paragraph 2), an attempt is made to summarise pertinent information on the occurrence of eagles in South Africa, with a particular focus on the conservation threats they face in the country. The second section (paragraphs 3 and 4) provides an overview of the status of eagles in South African law. In the third section (paragraphs 5-8), an attempt is made to critically evaluate the scope and effectiveness of South African environmental law in respect of eagle conservation, and to make a number of recommendations.

2 Eagles and conservation threats in South Africa

2.1 The occurrence of eagles in South Africa

Sixteen species of eagle occur in the Republic of South Africa.[3] Thirteen of these species are known to breed in the territory,[4] while the remaining three species visit

[3] They are the African Fish Eagle *Haliaeetus vocifer*, Bateleur *Terathopius ecaudatus*, Brown Snake Eagle *Circaetus cinereus*, Black-chested Snake Eagle *Circaetus pectoralis*, Southern Banded Snake Eagle *Circaetus fasciolatus*, Verreaux's Eagle (previously known as the Black Eagle) *Aquila verreauxii*, Tawny Eagle *Aquila rapax*, Steppe Eagle *Aquila nipalensis*, Lesser Spotted Eagle *Aquila pomarina*, African Hawk-Eagle *Aquila spilogaster*, Wahlberg's Eagle *Hieraaetus wahlbergi*, Booted Eagle *Hieraaetus pennatus*, Ayres's Hawk-Eagle *Hieraaetus ayresii*, Long-crested Eagle *Lophaetus occipitalis*, Martial Eagle *Polemaetus bellicosus*, and Crowned Eagle *Stephanoaetus coronatus*. English and scientific names used here follow the list of the International Ornithologist's Union (International Ornithologist's Union 2013 www.worldbirdnames.org). For information on these species and their occurrence in South Africa, see Hockey, Dean and Ryan (eds) *Roberts Birds of Southern Africa* 481-483, 493-500, 528-542; Steyn *Birds of Prey of Southern Africa* 59-126, 129-144. For information on these species in a global context, see Ferguson-Lees and Christie *Raptors of the World* 394-396, 450-457, 724-727, 730-736, 748-750, 753-761, 763-765, 769-770, 788-790, 792-794.

[4] The African Fish Eagle, Bateleur, Brown Snake Eagle, Black-chested Snake Eagle, Southern Banded Snake Eagle, Verreaux's Eagle, Tawny Eagle, African Hawk-Eagle, Wahlberg's Eagle;

South Africa on migration and are not known to breed in South Africa.[5] Some species are thought to be nomadic, and can range widely in Africa, when not tied to a breeding territory.[6] Compared to many other nations, South Africa is exceptionally rich in eagle species.[7]

The word "eagle" is applied to a wide variety of large diurnal raptors, or birds of prey. These birds are classified into a number of fairly distinct groups, such as fish eagles, snake eagles, and typical or booted eagles. These groups are not necessarily closely related, and for this reason the word "eagle" is not a recognised scientific term in ornithology.[8] Nevertheless, eagles have several common characteristics, the most notable of which include their large size and carnivorous diet. They furthermore share the predatory habit of actively hunting live prey, although most eagles will also eat carrion.[9]

In addition to the sixteen eagle species, a further fifty-one species of diurnal birds of prey, or raptors, occur in South Africa, bringing the total number of diurnal raptor species to sixty-seven.[10] A detailed survey and evaluation of the legal status of all these species were deemed a too ambitious undertaking for this exploratory study. It is nevertheless hoped that this contribution, although restricted to the legal status of the sixteen eagle species, will be of assistance to anyone with an interest in the

Booted Eagle, Long-crested Eagle, Martial Eagle, and Crowned Eagle. See the sources listed in fn 3.

5 The Steppe Eagle, Lesser Spotted Eagle, and Ayres's Hawk-Eagle. Steppe and Lesser Spotted Eagles breed in Europe and Asia, while the Ayres's Hawk-Eagle breeds in other African countries. See the sources listed in fn 3.

6 A good example is the Brown Snake Eagle. See Jenkins "Brown Snake Eagle" 196 and the sources listed in fn 3.

7 By way of comparison, in Western Europe, Spain is renowned for its birds of prey and 11 eagle species have been recorded there, but only 5 of those species breed there. The United States of America has 2 breeding eagle species and 2 other species have been recorded as vagrants. Australia has 3 resident eagle species and 1 vagrant species. See Global Raptor Information Network Date Unknown www.globalraptors.org.

8 Ferguson-Lees and Christie *Raptors of the World* 77; Katzner and Tingay "Eagle Diversity, Ecology and Conservation" 2 *et seq*.

9 Katzner and Tingay "Eagle Diversity, Ecology and Conservation" 2-3.

10 See Hockey, Dean and Ryan (eds) *Roberts Birds of Southern Africa* 473 *et seq*. Twelve owl species, which are mainly nocturnal in habits, also occur in South Africa (Hockey, Dean and Ryan (eds) *Roberts Birds of Southern Africa* 251-264) and this produces a total of 79 bird of prey species.

conservation of birds of prey. Arguments, conclusions and recommendations that are offered here may apply equally to other species of birds of prey.

2.2 Conservation threats

The conservation threats to eagles in South Africa may be classified into two broad categories: (1) direct and (2) indirect.[11]

2.2.1 Direct threats

2.2.1.1 Intentional killing

Direct, intentional killing of eagles may be performed for a variety of purposes, but is perhaps most often associated with small-stock farming, where the eagles are perceived as a threat to lambs. Such killing is known to have impacted severely on some eagle species.[12] The Martial Eagle is the best example. It has the widest distribution of all the large eagle species occurring in South Africa, and yet in many areas it is one of the rarest species. In large conservation areas, such as the Kruger National Park and the Kgalagadi Transfrontier Park, healthy Martial Eagle populations occur at much higher densities than on farmland.[13] The Martial Eagle is Africa's largest eagle and is capable of killing the offspring of small livestock. Conflict with small-stock farmers, whether based on hard evidence or on suspicion and prejudice,[14] is almost inevitable, and direct human persecution is probably the main cause of the rarity of the Martial Eagle over much of South Africa today.[15] In certain parts of South Africa the Verreaux's Eagle and the Crowned Eagle are also subject to

11 On threats to birds of prey in South Africa in general, see EWT 2011 www.ewt.org.za, and on threats to birds of prey internationally, Newton "Human Impacts on Raptors" 190 *et seq*.

12 Barnes (ed) *Important Bird Areas* 35; for an international perspective, see Newton "Human Impacts on Raptors" 194-200.

13 Boshoff "Martial Eagle" 192; Tarboton and Allan *Status and Conservation* 51.

14 Because many eagles eat carrion, seeing an eagle feeding on a dead lamb does not in itself constitute conclusive proof that the eagle has killed the lamb. See Bekker *et al Innocent until Proven Guilty* 1-4.

15 Boshoff "Martial Eagle" 192; Tarboton and Allan *Status and Conservation* 53.

direct persecution by small stock farmers.[16] The African Hawk-Eagle and the Ayres's Hawk-Eagle frequently hunt birds and may be shot by poultry farmers and pigeon fanciers.[17]

Apart from the protection of livestock against a perceived threat of predation, the intentional killing of raptors may also be motivated by the use of raptor parts in traditional medicine. Various vulture species are known to be targeted for this practice.[18] The most frequently employed technique is to put out a poisoned carcass to attract and kill large numbers of vultures. This technique is very effective, and birds breeding inside conservation areas but foraging over wide areas for food can be targeted by placing poisoned bait close to the borders of such protected areas. At the moment it is unknown if eagle species are intentionally targeted for the traditional medicine trade, but the possibility needs to be reckoned with.[19]

2.2.1.2 Trade in eagles and their eggs

Trade in eagles and their eggs can be an important threat to eagle populations. Some eagle species are highly valued by falconers and collectors, and this gives rise to a black market trade in these eagles and in live eggs that are hatched in incubators. Not much data is available about such activities in South Africa, but a dramatic instance of such trade in the eggs of Verreaux's Eagles and other raptors occurred in neighbouring Zimbabwe.[20] In that case, the local perpetrators were members of a group of volunteers monitoring and studying an exceptional population of Verreaux's Eagles in the Matobo Hills. South African eagles cannot be assumed to be immune from similar threats.

16 Davies and Allan "Black Eagle" 176, Boshoff "Crowned Eagle" 194.
17 Jenkins "Ayres' Eagle" 187; Simmons "African Hawk Eagle" 188.
18 Mundy *et al Vultures of Africa* 346-347, 381-384, Steyn and Arnott *Hunters* 14.
19 Bateleurs and Tawny Eagles consume much carrion, and where these species occur they may be attracted and killed by poisoned bait even if they were not the desired targets of the perpetrators. Records of eagles being killed in this manner exist, eg Mundy *et al Vultures of Africa* 384, but it is not clear whether the perpetrators had hoped to kill the eagles, or whether they were accidental victims of poisoning aimed at killing vultures.
20 Gargett *Black Eagle* 235-236.

2.2.2 Indirect threats

2.2.2.1 Non-targeted poisoning

Various human activities that are not aimed at harming eagles can nevertheless pose conservation risks to eagle populations. A significant example of this is poisoning in rural areas. Poisoned bait is put out for problem animals such as black-backed jackal[21] and caracal,[22] usually without any desire to harm eagles, but eagle mortalities occur when eagles find the bait first. Poisoned bait aimed at collecting vulture carcasses for the traditional medicine market can also kill eagles in this way. Two eagle species that have suffered dramatic reductions in numbers and distribution as a result of such poisoning are the Bateleur and the Tawny Eagle.[23] Both species rely heavily on carrion as a source of food. In large protected areas like the Kruger National Park and the Kgalagadi Transfrontier Park, these two species are usually among the most numerous of the resident eagle species. However, although they occurred widely in South Africa in historical times, both species are now extinct in much of South Africa outside formally protected areas, and unintentional poisoning is in all likelihood the major cause of this.

A second form of unintentional poisoning is related to the use of pesticides and other toxic chemicals. Internationally, the most serious impact of pesticides on raptor populations has involved so-called organochlorines, of which DDT is the most notorious. These substances dissolve in fat and therefore accumulate in the bodies of animals. Animals at the top of food chains, like birds of prey, eat animals with such accumulations in their body fats, and end up having even higher concentrations of these compounds in their bodies. In many instances, the effect is not lethal to the birds of prey, but leads to egg-shell thinning, which in turn causes eggs to break, resulting in reproductive failure. In the northern hemisphere, populations of raptors such as the Bald Eagle[24] and Peregrine Falcon[25] crashed, and this led to restrictions

21 *Canis mesomelas.*
22 *Caracal caracal*.
23 Barnes (ed) *Important Bird Areas* 35; Simmons "Bateleur" 202; Simmons "Tawny Eagle" 178.
24 *Haliaeetus leucocephalus*.

on the use of these compounds in many countries.[26] In South Africa DDT is still used at times to combat malaria, and it therefore poses a potential threat to the reproduction of eagles and other birds of prey.

Incidents are also on record where poisons have been sprayed onto flocks of Red-billed Quelea,[27] an avian crop pest, whereupon birds of prey, including eagles, catch and eat the poisoned Queleas with lethal consequences to the birds of prey.[28]

2.2.2.2 Habitat loss

Loss of habitat is one of the most important factors causing the extinction of species worldwide.[29] Among the South African eagles, habitat destruction poses the most immediate risk to species occurring in habitats that cover small land surface areas and that are exposed to degradation by human activities. The best example of this is the Southern Banded Snake Eagle. Its South African distribution is restricted to a narrow belt of sub-tropical bush fringing the far northern coast of KwaZulu-Natal.[30] If this localized habitat it destroyed, this will probably result in the local extinction of the Southern Banded Snake Eagle. Habitat destruction in South Africa is usually the result of development for agriculture, housing, mining and similar land-use forms, or in subsistence communities, the clearing of bush to collect firewood, to establish small croplands, and for other purposes. Related to habitat loss is the global threat of climate change, the impacts of which could, for instance, include dramatic changes in the habitat and prey base of many eagles.

---

25 *Falco peregrinus*.

26 For an overview of this problem on a global scale, see Newton "Human Impacts on Raptors" 203-205; Newton *Population Ecology* 229-262. See also Giliomee "Pesticides" 746 *et seq*.

27 *Quelea quelea*.

28 Loon 1995 *SAJELP* 176.

29 Newton "Human Impacts on Raptors" 190-193; Newton *Population Ecology* 263-264.

30 Berruti "Southern Banded Snake Eagle" 200.

2.2.2.3 Dangerous structures

Several structures erected by people on the landscape are potentially dangerous to eagles. Thus eagles may be killed by being electrocuted on power lines, colliding with power lines in flight, and drowning in steep-sided farm dams.[31] The imminent introduction of wind farms in South Africa also has the potential to kill a variety of birds, including eagles.[32]

2.2.2.4 Disturbance

Unintentional disturbance at nests may impact negatively on the distribution of eagles and on their breeding success.[33] Rock-climbing and other mountaineering activities may contribute to the nesting failure of pairs of Verreaux's Eagle.[34]

3 Legislation impacting on the legal status of eagles in South Africa

An overview of laws that affect or may affect the conservation status of eagles in South Africa is now presented.

South Africa is a constitutional democracy with a separation between the powers of the executive, the legislature and the judiciary. The national and provincial tiers of government have a concurrent competence to make laws on nature conservation and some other environmental matters.[35] The most important South African laws

---

31 Boshoff "Martial Eagle" 192. These threats have been documented more comprehensively in the case of vultures (Mundy *et al Vultures of Africa* 366-368, 370-377), but they also pose dangers to eagles.

32 See eg EWT 2011 www.ewt.org.za 44-45.

33 For a brief overview of this problem on a global scale, see Newton "Human Impacts on Raptors" 200-201.

34 Tarboton and Allan *Status and Conservation* 31.

35 *Constitution of the Republic of South Africa*, 1996 (hereafter the *Constitution*) s44, s104 read with schedule 4. Conflicts between national and provincial legislation are dealt with in s 146. Legislation on a small number of nature conservation functions, of which national parks are the most relevant for the present purpose, is in the exclusive competence of the national government. Local governments also have a competence to make laws on some environmental matters, but this was not deemed sufficiently significant to the topic of this contribution to be discussed here. See further Du Plessis "Understanding the Legal Context" 29 *et seq*; Glazewski and Rumble "Administration and Governance" 6.9 *et seq*; Kidd *Environmental Law* 31 *et seq*. For

addressing conservation threats against eagles are the *National Environmental Management: Biodiversity Act* 10 of 2004 (NEMBA), read with the *Threatened or Protected Species Regulations*, February 2007 (TOPS regulations), the *National Environmental Management: Protected Areas Act* 57 of 2003 (NEMPA), and a multitude of provincial nature conservation ordinances or biodiversity legislation. In the overview that follows, these laws will be given the most attention, and when a practical legal problem concerning the conservation of a South African eagle needs to be solved, these laws should be consulted first. However, these laws do not exist in a vacuum, and a number of other South African laws and international and regional legal instruments will also be considered, albeit more briefly.

3.1 International legal instruments

South Africa is a party to several international legal instruments that may influence the conservation status of eagles.[36] The Minister of Water and Environmental Affairs[37] must report annually to the State President on the international environmental instruments for which he or she is responsible, and the report may include details of progress with their implementation, and of legislative measures that have been taken and the envisaged time frames within which the relevant objectives will be achieved.[38]

3.1.1 The Convention on Wetlands of International Importance *(1971) (the* Ramsar Convention*)*

This convention[39] is aimed at the wise use of wetlands. It makes provision for the declaration of wetlands of international importance, but signatory countries also

---

an in-depth discussion of local government in fulfilling the constitutional environmental right, see Du Plessis *Fulfilment* especially 295 *et seq*.

36 See in general Devine "International Environmental Law" 126 *et seq*; Glazewski and Ruppel "International Environmental Law" 2.1 *et seq*; Kidd *Environmental Law* 45 *et seq*; Paterson "Biodiversity, Genetic Modification and the Law" 13.7 *et seq*.

37 Formerly the Minister of Environmental Affairs and Tourism.

38 *National Environmental Management Act* 107 of 1998 (hereafter NEMA) s26(1). See also para 3.3.2 below.

39 *Convention on Wetlands of International Importance* (1971) (*Ramsar Convention*).

undertake to promote the conservation and sustainable use of other wetlands. South Africa became a signatory country in 1975. The African Fish Eagle is an obvious beneficiary of the protection of wetlands.

3.1.2 The Convention Concerning the Protection of the World Cultural and Natural Heritage *(1972) (the* World Heritage Convention*)*

This convention[40] is aimed at the cooperative conservation of sites of natural and cultural heritage. Signatory countries undertake to identify and cooperate in the conservation of World Heritage Sites that are of international cultural and natural significance.[41] Eight World Heritage Sites have been proclaimed in South Africa,[42] and all but one of them are known to have eagles as residents or visitors.

3.1.3 The Convention on International Trade in Endangered Species of Wild Fauna and Flora *(1973) (CITES)*

This is an international agreement[43] with the aim of controlling and monitoring international trade in species threatened or potentially threatened by such trade. South Africa became a signatory country in 1975. All imports and exports of species listed in the CITES appendices must be authorised by way of a permit system. A CITES permit may be issued only if, *inter alia*: (a) export or import of the species will not be detrimental to the survival of the species in the wild; (b) the relevant specimen was not obtained in contravention of protective law of the relevant state; and (c) living specimens will be transported in a manner that will minimise the risk of injury, damage to health or cruel treatment. All sixteen species of eagle occurring in

---

40 *Convention Concerning the Protection of the World Cultural and Natural Heritage* (1972) (*World Heritage Convention).*

41 The Australian High Court was called upon to consider the nature of the obligations imposed by the Convention, and a small majority held that the Convention imposed binding obligations on the state to take appropriate measures, including legal ones, for the preservation of cultural and natural heritage. See Strydom "Protected Areas" 957-958 for a discussion.

42 They are the iSimangaliso Wetland Park, uKhahlamba/Drakensberg Park, Mapungubwe Cultural Landscape, Cape Floral Region Protected Areas, Vredefort Dome, Richtersveld Cultural and Botanical Landscape, Fossil Hominid Sites of Sterkfontein, Swartkrans, Kromdraai and environs, and Robben Island; see UNESCO Date Unknown whc.unesco.org for more information.

43 *Convention on International Trade in Endangered Species of Wild Fauna and Flora* (1973) (CITES).

South Africa are listed in Appendix II; that is, they are deemed to be species that are not necessarily threatened with extinction, but that may become threatened in future unless international trade is strictly regulated. Permits to import or export Appendix II species may be issued only if the relevant specimens were lawfully obtained and their trade will not be detrimental to the survival of the species in the wild.

3.1.4 The Convention on the Conservation of Migratory Species of Wild Animals *(1979) (the* Bonn Convention *or the CMS) and the* Memorandum of Understanding on the Conservation of Migratory Birds of Prey in Africa and Eurasia *(the* Raptors MoU*)*

This convention is aimed at strengthening the conservation of wild animals that migrate across state borders, mainly by means of the development of cooperative agreements between governments.[44] In terms of Appendix II, the species of the *Accipitridae*, the bird family to which eagles belong, are species that are vulnerable and that would benefit from international agreements for their conservation.[45] South Africa acceded to the convention in 1991. Four eagle species are known to visit South Africa regularly as migrants,[46] and one species is presumed to do so.[47] These species, and potentially some others too,[48] can benefit from this convention. However, the main strategy of the convention is the development of cooperative agreements between governments, and because the convention has not yet been signed by all the countries bordering on South Africa, the effectiveness of the convention is undermined in the southern part of Africa.[49]

---

44 *Convention on the Conservation of Migratory Species of Wild Animals* (1979) (*Bonn Convention*).

45 Appendix I lists species that are in danger of extinction and in need of strict protection. The list contains a number of eagle species, but no South African eagle species.

46 Steppe Eagle, Lesser Spotted Eagle, Wahlberg's Eagle and Booted Eagle. See the sources listed in fn 3.

47 Ayres's Hawk-Eagle. See the sources listed in fn 3.

48 Other species are known to undertake movements across national borders at times, but these movements are not well understood and are usually presumed to be nomadic rather than regular migration.

49 Kidd *Environmental Law* 63. Mozambique and Zimbabwe are parties to the convention, but Botswana and Namibia are not.

The convention also makes provision for the drafting of specific memoranda of understanding, and the *Memorandum of Understanding on the Conservation of Migratory Birds of Prey in Africa and Eurasia* (the *Raptors MoU*) came into effect in 2008.[50] The *Raptors MoU* is not a legally binding agreement,[51] but the signatory states undertake to aim to take coordinated measures to achieve and maintain the favourable conservation status of birds of prey throughout their range and to reverse their decline,[52] *inter alia* by striving to adopt, implement and enforce legal, regulatory and administrative measures that would be appropriate to conserve birds of prey and their habitat.[53] Annex 3 contains an Action Plan for the conservation of migratory birds of prey in Africa and Eurasia. One of the activities that must be performed by signatory states in terms of the Action Plan is to improve the legal protection of birds of prey.[54] This requires signatory states to review their relevant legislation and take steps where possible to make sure that the legislation protects all birds of prey from all forms of deliberate killing, deliberate disturbance at nest sites and communal roost sites, egg-collection, and taking from the wild, unless such activities are authorised by a competent body and are sustainable and not detrimental to the conservation status of the species concerned. Steps must also be taken where possible to ban the use of exposed poison baits for predator control and chemicals that have been shown to cause significant avian mortalities. In addition, steps must be taken to ensure that the legislation requires all new power lines to be designed to avoid the electrocution of birds of prey. The enforcement of legal protection for birds of prey must be strengthened by appropriate penalties, the training of law enforcement authorities, and raising public awareness to improve surveillance and the reporting of illegal activities. South Africa signed the *Raptors MoU* in 2010. None of the Southern African states sharing common borders with South Africa has yet signed the MoU.

50 Convention on Migratory Species 2008 www.cms.int (the *Raptors MoU*).
51 Paragraph 2 of the *Raptors MoU*.
52 Paragraph 5 of the *Raptors MoU*.
53 Paragraph 7 of the *Raptors MoU*.
54 Table 2 Activity 1 of the *Raptors MoU*.

3.1.5 Convention on Biological Diversity *(1992)*

This convention[55] is aimed at the conservation of biodiversity, the sustainable use of its components, and a fair and equitable sharing of the benefits of the use of genetic resources. It provides that each contracting state party must develop national strategies, plans or programmes for the conservation and sustainable use of biological diversity, or adapt existing strategies, plans or programmes. Furthermore, the contracting parties must, as far as possible and as appropriate, integrate the conservation and sustainable use of biological diversity into relevant sectoral or cross-sectoral plans, programmes and policies.[56] The Convention requires parties to establish, as far as possible and appropriate, a system of protected areas where special measures will apply for the conservation of biological diversity.[57] Furthermore, parties undertake to regulate or manage biological resources, whether within or outside protected areas, to ensure their conservation and sustainable use.[58] South Africa ratified this convention in 1995. It should be self-evident that eagle conservation is promoted by the aims of the convention. Enabling national laws that give effect to the convention in South Africa are the *National Environmental Management: Biodiversity Act* 10 of 2004[59] and the *National Environmental Management: Protected Areas Act* 57 of 2003.[60]

3.1.6 The Convention on Persistent Organic Pollutants *(2001) (the* Stockholm Convention*)*

This convention is a global treaty to protect human health and the environment from chemicals that remain intact in the environment for long periods, become widely distributed geographically, and accumulate in the body fats of people and animals.[61] These substances are collectively known as persistent organic pollutants and refer

55 *Convention on Biological Diversity* (1992).
56 Article 6 *Convention on Biological Diversity* (1992).
57 Article 8(a) *Convention on Biological Diversity* (1992).
58 Article 8(c) *Convention on Biological Diversity* (1992).
59 Paragraph 3.3.4 below.
60 Paragraph 3.3.3 below.
61 *Convention on Persistent Organic Pollutants* (2001) (*Stockholm Convention*).

mainly to organochlorines such as DDT. South Africa ratified the convention in 2002.[62] Governments in developing countries, including South Africa, may still use DDT to control malaria-carrying mosquitoes, subject to conditions imposed by the *Stockholm Convention.*[63] In view of the threat of poisons to eagle populations, this convention is clearly of importance to the conservation of eagles.

3.2 Regional African and sub-regional legal instruments

A number of regional (African) and sub-regional (Southern African) legal instruments can also influence the conservation status of South African eagles.[64]

3.2.1 The Revised African Convention on Nature and Natural Resources *(2003)*

The *Revised African Convention on Nature and Natural Resources*[65] contains several interesting provisions dealing with the conservation of biodiversity.[66] Amongst others, signatory state parties undertake to ensure the conservation of species and their habitats within the framework of land-use planning and of sustainable development. The management of species and their habitats must be based on the results of continued scientific research.[67] The parties must compile inventories of species of fauna and flora and prepare maps of their distribution and abundance, and conduct regular reviews to facilitate the monitoring of the status of such species and their habitats in order to identify species that are threatened or may become so, and to provide them with appropriate protection.[68] The Convention also contains comprehensive provisions about the creation of conservation areas.[69] The signatory parties must promote environmental education, training and awareness creation at

62 In addition, in 2002 South Africa also acceded to the *Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade* (1998) (*Rotterdam Convention*). This convention makes provision for a prior informed consent procedure when countries import hazardous chemicals.

63 See Giliomee "Pesticides" 753.

64 See in general Van der Linde "Regional Environmental Law" 165 *et seq*.

65 *Revised African Convention on Nature and Natural Resources* (2003).

66 Its predecessor was the *African Convention on the Conservation of Nature and Natural Resources* (1968).

67 Article IX(2) of the *Revised African Convention on Nature and Natural Resources* (2003).

68 Article IX(2)(e)(ii) of the *Revised African Convention on Nature and Natural Resources* (2003).

69 Article XII of the *Revised African Convention on Nature and Natural Resources* (2003).

all levels to enhance the appreciation of the citizenry of their close dependence on natural resources, and the reasons and rules for ensuring that the use of these resources is sustainable.[70] It should be self-evident that many of the provisions of the convention would be highly beneficial to eagle conservation, but although the convention has been signed by several African states, including South Africa in April 2012, it has not yet been ratified, and is currently not in force.[71]

3.2.2 Agreements to create Transfrontier Conservation Areas

Treaties between South Africa and some of its neighbouring states have given rise to Transfrontier Conservation Areas, also referred to as "Peace Parks", usually by an effective amalgamation of protected areas in the different states across their shared borders.[72] The South African parts of such Transfrontier Conservation Areas must be designated as protected areas according to the relevant national legislation, in this instance the *National Environmental Management: Protected Areas Act* 57 of 2003 (NEMPA).[73] The oldest of these Transfrontier Conservation Areas is the Kgalagadi Transfrontier Park,[74] in which the Kalahari Gemsbok National Park of South Africa was united with protected areas in Botswana to create a massive conservation area of 37 256 square kilometres. Another large transfrontier park is the Great Limpopo Transfrontier Park,[75] straddling the borders of South Africa, Mozambique and Zimbabwe to create a conservation area of 35 000 square kilometers, with the South African Kruger National Park being one of its main constituent elements. Others are Ai/Ais/ Richtersveld and Maloti-Drakensberg.[76] Transfrontier Conservation Areas such as the Kgalagadi and Great Limpopo Transfrontier Parks are of immense importance to eagle conservation.

---

70 Article XX(1)(a) of the *Revised African Convention on Nature and Natural Resources* (2003).

71 See Glazewkski and Ruppel "International Environmental Law" 2.48.

72 See Lubbe "Straddling Borders" 127 *et seq*; Paterson "Protected Areas" 12.18-12.20; Erens, Verschuuren and Bastmeijer "Climate Change" 222-224.

73 Erens, Verschuuren and Bastmeijer "Climate Change" 222-223; Mramba 2004 *SAJELP* 214; Tanner *et al* 2004 *SAJELP* 169. On the *National Environmental Management: Protected Areas Act*, see para 3.3.3 below.

74 *Draft Bilateral Agreement on the Recognition of the Kgalagadi Transfrontier Park* (GN 1810 in GG 19171 of 28 August 1998).

75 *Agreement on the Development of the Gaza-Kruger-Gonarezhou Transfrontier Park* (2002).

76 Peace Parks Date Unknown www.peaceparks.org.

3.3 National legislation

3.3.1 Constitution of the Republic of South Africa, 1996

The *Constitution of the Republic of South Africa* provides in the Bill of Rights that:[77]

> 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 use of natural resources while promoting justifiable economic and social development.

These provisions lay a people-centred foundation upon which South African environmental law is constructed.[78] The *Constitution* is the ultimate source of all environmental rights in South Africa.[79] In addition, commentators have pointed out that a constitutionally entrenched environmental right can provide a "safety net" when existing laws or policies are inadequate to address given environmental problems, and can inhibit economic programmes that are detrimental to the environment, and, by providing procedural environmental rights, should promote

---

77 Section 24 of the *Constitution*. For judicial interpretation of this section, see *MEC, Department of Agriculture, Conservation and Environment v HTF Developers (Pty) Ltd* 2008 2 SA 319 (CC) paras [27], [28]; *Fuel Retailers Association of Southern Africa v Director General: Environmental Management, Department of Agriculture, Conservation and Environment, Mpumalanga Province* 2007 6 SA 4 (CC) paras [44], [45], [102]; *Director, Mineral Development, Gauteng Region and Sasol Mining (Pty) Ltd v Save the Vaal Environment* 1999 2 SA 709 (SCA) 719C-D; *HTF Developers (Pty) Ltd v The Minister of Environmental Affairs and Tourism* 2006 5 SA 512 (T) paras [17], [18]; *BP Southern Africa (Pty) Ltd v MEC for Agriculture, Conservation and Land Affairs* 2004 5 SA 124 (W) 143D; *Hichange Investments (Pty) Ltd v Cape Produce Co (Pty) Ltd t/a Pelts Products* 2004 2 SA 393 (E) 415. For commentaries, see Glazewski "Bill of Rights and Environmental Law" 5.3 *et seq*; Kidd *Environmental Law* 21 *et seq*; Paterson "Biodiversity, Genetic Modification and the Law" 13.16 *et seq*; Strydom and King "Introduction" lv; Nel and Kotzé "Environmental Management" 5.

78 Du Plessis *Fulfilment* 22; Hall 2010 *SAJELP* 15.

79 Van der Linde and Basson "Environment" 50.9.

greater public participation in the interpreting and enforcing of substantive environmental rights.[80]

The *Constitution* provides that the environment and nature conservation are areas of concurrent national and provincial legislative competence.[81] National parks constitute an exception insofar as the provinces have no legislative competence in respect of them. A conflict between national and provincial legislation must be resolved in terms of section 146. This section provides that national legislation that applies uniformly with regard to the country as a whole prevails over provincial legislation if (a) the national legislation deals with a matter that cannot be regulated effectively by provincial legislation individually enacted by the respective provinces; or (b) the national legislation deals with a matter that, to be dealt with effectively, requires uniformity across the nation, and the national legislation provides that uniformity by establishing norms and standards, frameworks or national policies; or (c) the national legislation is necessary *inter alia* for the protection of the environment.[82]

3.3.2 The National Environmental Management Act *107 of 1998 (NEMA)*

The *National Environmental Management Act* 107 of 1998 (NEMA)[83] creates the legislative framework for environmental protection in South Africa, and is aimed at giving effect to the environmental right in the *Constitution*.[84] It sets out a number of guiding principles that apply to the actions of all organs of state that may significantly affect the environment.[85] Sustainable development (socially,

---

80 Van der Linde and Basson "Environment" 50.9.

81 Section 104(1) read with Schedule 4 of the *Constitution*. For a commentary, see Kidd *Environmental Law* 31-35.

82 Section 146(2)(c)(vi) of the *Constitution*.

83 For commentaries, see Glazewski "National Environmental Management Act" 7.1 et *seq*; Kidd *Environmental Law* 35-44; Van der Linde "National Environmental Management Act" 193-221; Van der Linde and Basson "Environment" 50; Nel and Du Plessis 2001 *SAJELP* 1-37. NEMA is a key law in the suite of South African environmental laws. Within the space constraints of this contribution, remarks are limited to a small number of highlights that can influence the legal status of eagles.

84 Kidd *Environmental Law* 35; Van der Linde "National Environmental Management Act" 197.

85 Section 2 of the *National Environmental Management Act* 107 of 1998 (NEMA). For a commentary, see Henderson 2001 *SAJELP* 156 *et seq*.

environmentally and economically) is one of the key principles,[86] and internationally accepted principles of environmental management, such as the precautionary principle[87] and the polluter pays principle,[88] are also incorporated.[89]

NEMA furthermore makes provision for cooperative environmental governance facilitated by the submission and compliance with environmental implementation and management plans.[90] State departments which exercise functions that may affect the environment[91] and the provinces must prepare environmental implementation plans.[92] State departments exercising functions that involve the management of the environment[93] must prepare environmental management plans.[94] NEMA furthermore provides that the Minister of Water and Environmental Affairs, provincial governments and local authorities may enter into Environmental Management Cooperation Agreements with any person or community to promote compliance with the principles of environmental management.[95] Provisions of this nature should promote the conservation of biodiversity in general, and hence also of eagles and other birds of prey, as well as their prey species.

NEMA also provides that a wide variety of listed developmental activities,[96] which may significantly affect the environment, may be performed only after an environmental impact assessment has been done and authorization has been

86 Section 2(3) of NEMA.

87 Section 2(4)(a)(vii) of NEMA. This principle dictates that in situations where there is uncertainty whether or not a given course of action will cause harm to the environment, it is better to avoid possible harm than to try to remedy it at a later stage. See Kidd *Environmental Law* 9.

88 Section 2(4)(p) of NEMA.

89 For judicial interpretation of these principles, 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 [67]; *MEC for Agriculture, Conservation, Environment & Land Affairs v Sasol Oil (Pty) Ltd* 2006 5 SA 483 (SCA) para [15]; for a less favourable interpretation *Minister of Public Works v Kyalami Ridge Environmental Association* 2001 3 SA 1151 (CC) para [68]; for commentary see Glazewski "National Environmental Management Act" 7.8 *et seq*; Kidd *Environmental Law* 38-40; Van der Linde "National Environmental Management Act" 198-201.

90 For a critical commentary, see Kidd *Environmental Law* 40-42.

91 These departments are listed in Schedule 1 and a point of criticism here is that the Department of Minerals and Energy is not included; see Kidd *Environmental Law* 41-42.

92 Section 11(1) of NEMA. See also ss 12, 13, 15, 16.

93 These departments are listed in Schedule 2.

94 Section 11(2) of NEMA. See also ss 12, 14-16.

95 Section 35 of NEMA. See Scholtz 2004a *SAJELP* 31; Scholtz 2004b *SAJELP* 183.

96 These activities are listed in GN R544, GN R545, and GN R546 in GG 33306 of 18 June 2010.

obtained from the relevant authority.[97] Many of these listed activities can potentially have negative impacts on eagle populations in a variety of ways. The clearance of natural vegetation, for instance, can lead to a loss of habitat and may depress prey populations, while erecting structures needed for generating and distributing energy, communication, and so forth can cause mortalities by collision or electrocution.

NEMA also provides that the Minister may make a recommendation to the Cabinet and Parliament in respect of accession to or ratification of international environmental instruments to which South Africa is not yet bound.[98] The Minister must report to Parliament once a year on the international environmental instruments for which he or she is responsible[99] and this report may refer to progress made with their implementation.[100] As noted above, several international environmental instruments to which South Africa is a party promote the conservation of eagles and other birds of prey.

To aid the enforcement of environmental law,[101] NEMA makes provision for the appointment of Environmental Management Inspectors and gives them wide powers *inter alia* to conduct inspections and searches, to seize items and to issue compliance notices.[102] These inspectors are popularly known as the Green Scorpions and have had success with the investigation of environmental crimes.[103] Under the heading "Judicial matters", the Act addresses such matters as legal standing to enforce environmental laws, private prosecutions, criminal proceedings, and offences.[104]

97 Section 24 of NEMA.
98 Section 25(1) of NEMA.
99 Section 26(1) of NEMA.
100 Section 26(1)(b) of NEMA.
101 Environmental laws that may specifically be enforced by the Environmental Management Inspectors include NEMA, the *National Environmental Management: Protected Areas Act* 57 of 2003 (NEMPA) (para 3.3.3 below) and the *National Environmental Management: Biodiversity Act* 10 of 2004 (NEMBA) (para 3.3.4 below).
102 Sections 31B-31P of NEMA.
103 Craigie, Snijman and Fourie "Environmental Compliance" 88-96; Van der Linde "National Environmental Management Act" 217.
104 Sections 32-34H of NEMA.

3.3.3 The National Environmental Management: Protected Areas Act *57 of 2003 (NEMPA) and other Acts dealing with protected areas*

The *National Environmental Management: Protected Areas Act* 57 of 2003 (NEMPA)[105] makes provision for the declaration and management of protected areas.[106] The Act is aimed at consolidating and rationalising all the laws dealing with protected areas in South Africa.[107] NEMPA has superseded, amongst others, the *National Parks Act* 57 of 1976, in terms of which most of the South African national parks were proclaimed. It has also superseded similar pieces of legislation in the former independent or semi-independent States and Homelands. South Africa has an impressive network of national parks and other protected areas known as special nature reserves, nature reserves and protected environments, world heritage sites, marine protected areas, protected forests, and mountain catchment areas, among other titles.[108] The purposes for which the protected areas have been declared include to conserve biodiversity,[109] to protect areas representative of all ecosystems, habitats and species naturally occurring in South Africa,[110] and to protect South Africa's threatened or rare species.[111] Because important biodiversity often occurs outside of the network of formally protected areas, the Act also makes provision for the declaration of protected environments that may be situated outside formally protected areas but are nevertheless subject to special conservation measures.[112]

Other Acts in terms of which protected areas may be proclaimed include the *World Heritage Convention Act* 49 of 1999; *Mountain Catchment Areas Act* 63 of 1970 and

105 For commentaries, see Algotsson "Biological Diversity" 107; Kidd *Environmental Law* 115 *et seq*; Paterson "Protected Areas" 12.32 *et seq*; Strydom "Protected Areas" 962 *et seq*.

106 Section 2(a) of NEMPA.

107 Kidd *Environmental Law* 115.

108 Section 9 of NEMPA. See DEAT Date Unknown gis.deat.gov.za for a register of all the protected areas of South Africa.

109 Section 17(c) of NEMPA.

110 Section 17(d) of NEMPA.

111 Section 17(e) of NEMPA.

112 Section 28 of NEMPA. See Algotsson "Biological Diversity" 107, who points out that this provision gives effect to the *Convention on Biological Diversity* (1992) a 8(c).

National Forests Act 84 of 1998. At a provincial level, many nature conservation laws and ordinances also make provision for the creation of protected areas.[113]

The protected areas of South Africa are extremely important for the conservation of eagles, as will be shown in more detail below.[114]

3.3.4 The National Environmental Management: Biodiversity Act *10 of 2004 (NEMBA) and the* Threatened or Protected Species Regulations*, February 2007 (TOPS Regulations)*

The most prominent statute containing provisions directly aimed at the conservation of eagles is the *National Environmental Management: Biodiversity Act* 10 of 2004, read with the *Threatened or Protected Species Regulations*, February 2007 (*TOPS Regulations*).[115] Chapter 1 sets out the objectives of the Act, and they are aligned with the objectives of the *Convention on Biological Diversity*, which are the conservation of biodiversity, the sustainable use of its components, and the fair and equitable sharing of the benefits of the use of genetic resources.[116] The Act also gives effect to CITES, the *Ramsar Convention*, and the *Bonn Convention on Migratory Species of Wild Animals*.[117] The State is endowed with the trusteeship of biodiversity and has the responsibility to manage, conserve and sustain the biodiversity of South Africa.[118] Chapter 2 establishes the South African National Biodiversity Institute (SANBI), and tasks it with monitoring and reporting on biodiversity matters.[119]

---

113 See para 3.4 below.
114 Paragraph 5.1 below.
115 *Threatened or Protected Species Regulations* (GN R152 in GG 29657 of 23 February 2007) (*TOPS Regulations*). For commentaries, see Algotsson "Biological Diversity" 106-107; Kidd *Environmental Law* 102-115; Paterson "Biodiversity, Genetic Modification and the Law" 13.21-13.39; Rumsey "Terrestrial Wild Animals" 400-402, 405-420.
116 Section 2(a) of NEMBA.
117 Section 2(b) of NEMBA; see Kidd *Environmental Law* 102.
118 Section 3 of NEMBA.
119 Sections 10-36A of NEMBA.

Chapter 3 makes provision for coordinated biodiversity planning, monitoring and research.[120] The Minister of Water and Environmental Affairs must prepare a national biodiversity framework to provide for coordinated biodiversity management by organs of state and non-governmental bodies and to identify conservation priorities.[121] The Minister may furthermore draw up bioregional plans for effective biodiversity management and monitoring on a regional basis.[122] Biodiversity management plans for species may be drawn up by any person, organisation or state organ, and submitted for approval by the Minister, for the purpose of ensuring the long-term survival of an ecosystem or a species.[123] Such a biodiversity management plan may be drafted for a listed, threatened or protected species,[124] but also for a species which is not listed but nevertheless warrants special conservation attention.[125] These provisions have great potential for the development of management plans for eagle species, irrespective of whether they are listed, threatened or protected species. The Act furthermore specifically authorises the drafting of a biodiversity management plan for a migratory species to give effect to South Africa's obligations in terms of an international agreement.[126] This provision clearly has the potential to be applied in respect of the species that are sought to be protected by the *Raptors MoU*. The Minister must identify a suitable person, organisation or organ of state that is willing to be responsible for the implementation of the biodiversity management plan,[127] and the Minister may enter into a biodiversity management agreement with that identified party to facilitate implementation.[128] The Minister must designate monitoring mechanisms and set indicators to determine the conservation status of various components of South Africa's biodiversity and any negative and positive trends affecting the conservation status of the various components.[129]

120 Section 37 of NEMBA.
121 Sections 38, 39 of NEMBA.
122 Sections 40-42 of NEMBA.
123 Sections 43-46 of NEMBA.
124 Listed in terms of s 56 of NEMBA; see discussion below.
125 Section 43(b) of NEMBA.
126 Section 43(c) of NEMBA.
127 Section 43(2) of NEMBA.
128 Section 44 of NEMBA.
129 Section 49 of NEMBA.

The Minister must furthermore promote research on biodiversity conservation. Such research may include the collection and analysis of information about the conservation status of the various components of biodiversity and negative and positive trends in respect of that status, processes or activities likely to impact adversely on biodiversity conservation, the assessment of biodiversity conservation strategies and techniques, the determination of biodiversity conservation needs and priorities, and the sustainable use, protection and conservation of indigenous biological resources.[130] Research of the kind envisaged could be of immense value for eagle conservation.

Chapter 4 of NEMBA deals with threatened or protected ecosystems and species. The stated purpose of the chapter is (a) to provide for the protection of ecosystems that are threatened or in need of protection; (b) to provide for the protection of species that are threatened or in need of protection to ensure their survival in the wild; (c) to give effect to international agreements regulating trade in specimens of endangered species;[131] and (d) to ensure the sustainable use of biodiversity.[132] In respect of species, the chapter authorizes the Minister of Water and Environmental Affairs to publish a list of Critically Endangered, Endangered, Vulnerable or Protected Species.[133] These categories of species are defined in the Act. A Critically Endangered Species is any indigenous species facing an extremely high risk of extinction in the wild in the immediate future.[134] An Endangered Species is any indigenous species facing a high risk of extinction in the wild in the near future, although it is not a Critically Endangered Species.[135] A Vulnerable Species is any indigenous species facing an extremely high risk of extinction in the wild in the medium-term future, although it is not a Critically Endangered or Endangered Species.[136] A Protected Species is any species that has such a high conservation value or national importance that it requires national protection, although it is not

130 Section 50 of NEMBA.
131 CITES; see para 3.1.3 above.
132 Section 51 of NEMBA.
133 Section 56 of NEMBA.
134 Section 56(1)(a) of NEMBA.
135 Section 56(1)(b) of NEMBA.
136 Section 56(1)(c) of NEMBA.

listed in one of the aforesaid three categories.[137] If lists of these categories of species are published, they must be reviewed by the Minister at least every five years.[138] In tandem with the *Threatened or Protected Species Regulations*,[139] *Lists of Critically Endangered, Endangered, Vulnerable and Protected Species* (hereafter the NEMBA lists) were indeed published in 2007.[140] In these lists, four eagle species are listed as Vulnerable. That is, they are deemed to face a high risk of extinction in the wild in the medium-term future. These species are the Tawny Eagle, Southern Banded Snake Eagle, Martial Eagle and the Bateleur.[141] No eagle species are listed as Critically Endangered,[142] Endangered[143] or Protected.[144] A new Threatened or Protected Species list was published for comment in April 2013.[145] According to the proposed new list, the following eagle species are still classified as Vulnerable: Bateleur, Martial Eagle, and Tawny Eagle. The Southern Banded Snake Eagle is no longer listed, and no other eagle species have been added.

In respect of any listed, threatened or protected species, the carrying out of a "restricted activity" without a permit is prohibited.[146] The restricted activities are defined to include hunting, capturing or killing a living specimen by any means, method or device whatsoever; injuring a living specimen with intent to hunt, catch, capture or kill; importing or exporting; having in possession; breeding; translocating; and selling or trading any specimen.[147] "Specimen" is defined to include an egg.[148]

137 Section 56(1)(d) of NEMBA.
138 Section 56(2) of NEMBA.
139 *Threatened or Protected Species Regulations* (GN R152 in GG 29657 of 23 February 2007).
140 *Lists of Critically Endangered, Endangered, Vulnerable and Protected Species* (GN R151 in GG 29657 of 23 February 2007).
141 Other diurnal bird of prey species listed as Vulnerable are the White-headed Vulture *Aegypius occipitalis*; Taita Falcon *Falco fasciinucha*; Lesser Kestrel *Falco naumanni*; and Peregrine Falcon *Falco peregrinus*. One nocturnal species, the Grass Owl *Tyto capensis*, is also listed in this category.
142 One diurnal bird of prey, the Egyptian Vulture *Neophron percnopterus*, is listed as Critically Endangered.
143 Five vulture species are listed as Endangered: Bearded Vulture *Gypaetus barbatus*; White-backed Vulture *Gyps africanus*; Cape Vulture *Gyps coprotheres*; Hooded Vulture *Necrosyrtes monachus*; and Lappet-faced Vulture *Aegypius tracheliotos*. The Pel's Fishing Owl *Scotopelia peli* is also listed in this category.
144 One diurnal bird of prey species, the African Marsh Harrier *Circus ranivorus*, is listed as Protected.
145 *Draft Threatened or Protected Species List* (Gen N 389 in GG 36375 of 16 April 2013).
146 Section 57(1) of NEMBA.
147 Section 1 of NEMBA.

The Minister of Water and Environmental Affairs may, in addition, prohibit the carrying out of any activity that may impact negatively on the survival of a listed, threatened or protected species.[149]

Chapter 9 deals with offences and penalties. The carrying out of a "restricted activity" without a permit in respect of a listed threatened or protected species is an offence,[150] and a person convicted thereof may be liable to a fine, imprisonment for a term of five years or less, or both.[151] The fine may not exceed an amount prescribed by the *Adjustment of Fines Act*[152] or an amount equal to three times the commercial value of the specimen in respect of which the offence was committed, whichever is the greater.[153] Under certain circumstances these penalties may be strengthened by recourse to NEMA. The offender may, for instance, be ordered to pay, in addition to the fine, compensation for damage caused by the offence; or to pay, in addition to the normal fine, a fine equivalent to the monetary advantage the offender would have gained from the offence; or to perform remedial actions.[154]

The *Threatened or Protected Species Regulations*, February 2007 (the *TOPS Regulations*) have been published to give effect to Chapter 4 of NEMBA.[155] The Regulations contain detailed provisions dealing with such topics as permits;[156] captive breeding and related topics;[157] hunting organisations[158] and the Scientific Authority that effectively functions as a local secretariat of CITES.[159]

---

148 Section 1 of NEMBA.
149 Section 57(2) of NEMBA.
150 Section 101(1) read with s 57(1) of NEMBA.
151 Section 101(1) of NEMBA.
152 *Adjustment of Fines Act* 101 of 1991. S 1(1)(a) provides that when the maximum amount of a fine is not stipulated in a penalty clause, the maximum amount is the amount stipulated in s 92(1((a) of the *Magistrates Court Act* 32 of 1944.
153 Section 102(2)(b) of NEMBA.
154 Section 34 of NEMBA. See Kidd *Environmental Law* 277.
155 *Threatened or Protected Species Regulations* (GN R152 in GG 29657 of 23 February 2007) (*TOPS Regulatins*). Amended *TOPS Regulations* and new *TOPS Lists* were published for public comment in 2013; see Gen N 388 and 389 in GG 36375 of 16 April 2013.
156 *TOPS Regulations* 3-26.
157 *TOPS Regulations* 27-37.
158 *TOPS Regulations* 51-53.
159 *TOPS Regulations* 59-69. See Paterson "Biodiversity, Genetic Modification and the Law" 13.31.

The *TOPS Regulations* also contain provisions dealing with damage-causing animals.[160] A "damage causing animal" is defined as an individual of a listed, threatened or protected species in respect of which there is substantial proof that, when interacting with human activities, it causes losses to stock or to other wild specimens; causes excessive damage to cultivated trees, crops, natural flora or other property; presents a threat to human life; or is present in such numbers that agricultural grazing is materially depleted. The provincial department responsible for the conservation of biodiversity in the relevant province must determine whether a listed, threatened or protected species can be deemed to be a damage-causing animal. If a damage-causing animal originates from a protected area, control options such as capture and relocation must be considered and killing left as a last resort. Certain permit holders[161] may hunt a damage-causing animal by such means as poison which has in terms of applicable legislation been registered for this purpose; bait and traps, excluding gin traps, under certain specified conditions; and a firearm, as specified on the permit.[162]

The provisions in respect of damage-causing animals are relevant to the conservation status of eagles in two different ways. First, an eagle may itself qualify as a damage-causing animal and be killed in terms of these provisions. Second, an eagle may be the unintended victim of measures aimed at killing another animal, such as a jackal or a caracal, in terms of these provisions. Particularly relevant in this regard is the use of poisoned bait.

160 *TOPS Regulations* 14.

161 In terms of *TOPS Regulations* 5(2)(a) and (c).

162 A landowner is not prohibited from killing a damage-causing animal in self-defence where human life is threatened, see *TOPS Regulation* 14(3). If a damage-causing animal is killed in such an emergency situation, the landowner must inform the relevant issuing authority of the incident within 24 hours after it has taken place; and the issuing authority must then evaluate the evidence to condone the action in writing or to take appropriate steps to institute criminal proceedings. It goes without saying that these provisions are unlikely ever to be applicable to eagles or other birds of prey.

3.3.5 Legislation regulating the use of poisons

The most important national legislation controlling the use of pesticides is the *Fertilizers, Farm Feeds, Agricultural Remedies and Stock Remedies Act* 36 of 1947. It regulates, among other things, the trade in, use of and disposal of pesticides. A *Pesticide Management Policy for South Africa* was published in 2010, and envisages the replacement of the aforementioned Act with new legislation.[163] The *Foodstuffs, Cosmetics and Disinfectants Act* 54 of 1972 is aimed at preventing dangerous levels of pesticides in food, and the *Hazardous Substances Act* 15 of 1973 and the *Occupational Health and Safety Act* 85 of 1993 contain provisions relating to pesticides in the interests of public health and health and safety in the workplace respectively. These Acts do not refer to the conservation status of eagles, but establish safety standards for dealing with toxic substances. If adhered to, these standards will benefit the environment and biodiversity.[164]

3.3.6 The Animals Protection Act *71 of 1962*

This Act contains provisions aimed at preventing cruelty to animals, including wild animals (and therefore also eagles) held in captivity.[165]

3.4 Provincial legislation

Prior to the promulgation of the *National Environmental Management: Biodiversity Act*, the direct legal protection of terrestrial species of fauna and flora was mainly in the domain of provincial legislation. The *National Environmental Management: Biodiversity Act* did not repeal the provincial legislation. To obtain a comprehensive picture of the protection of eagle species within the borders of South Africa, the various pieces of provincial legislation must therefore also be consulted.[166] If a

163 *Pesticide Management Policy for South Africa* (Gen N 1120 in GG 33899 of 24 December 2010). See Kidd *Environmental Law* 203-205 for a discussion.

164 See in general Giliomee "Pesticides" 746 *et seq*; Kidd *Environmental Law* 200 *et seq*.

165 For a commentary, see Glazewski "Wild Animals, Forests and Plants" 14.26 *et seq*.

166 For commentaries, see Glazewski "Wild Animals, Forests and Plants" 14.16-14.26; Kidd *Environmental Law* 100-102; Rumsey "Terrestrial Wild Animals" 420-423.

section of NEMBA conflicts with a provision contained in provincial legislation, the conflict must be resolved in terms of section 146 of the *Constitution*.[167] As seen,[168] the section provides that national legislation, which applies uniformly with regard to the country as a whole, prevails over provincial legislation if (a) the national legislation deals with a matter that cannot be regulated effectively by provincial legislation individually enacted by the respective provinces; or (b) the national legislation deals with a matter that, to be dealt with effectively, requires uniformity across the nation, and the national legislation provides that uniformity by establishing norms and standards, frameworks or national policies; or (c) the national legislation is necessary *inter alia* for the protection of the environment.[169] Applied to NEMBA and the provincial legislation, this would probably mean that NEMBA would prevail in most instances. This would also imply that the provincial legislation cannot give any species a lower conservation status than that with which it is endowed by NEMBA, but the provincial legislation can give a species a higher conservation status within the borders of the relevant province than that enjoyed by the relevant species nationally.[170]

The relevant laws in the various provinces are: *Nature and Environmental Conservation Ordinance* 19 of 1974, *Western Cape Nature Conservation Board Act* 15 of 1998 and *Problem Animal Control Ordinance* 26 of 1957 in the Western Cape Province; *Nature and Environmental Conservation Ordinance* 19 of 1974 and *Ciskei Nature Conservation Act* 10 of 1987 in the Eastern Cape; *Northern Cape Nature Conservation Act* 9 of 2009 in the Northern Cape; *Nature Conservation Ordinance* 8 of 1969, *QwaQwa Nature Conservation Act* 5 of 1976, *Bophuthatswana Nature Conservation Act* 3 of 1973 and *Bophuthatswana Protected Areas Act* 24 of 1987 in the Free State; *Nature Conservation Ordinance* 15 of 1974, *Kwa-Zulu Nature Conservation Act* 29 of 1992, *Kwa-Zulu Heritage Act* 10 of 1997 and *Kwa-Zulu Nature Conservation Management Act* 9 of 1997 in KwaZulu-Natal; *Nature Conservation Ordinance* 12 of 1983 in Gauteng; *Nature Conservation Ordinance* 12

167 NEMBA s 8(1)(b).
168 Paragraph 3.3.1 above.
169 NEMBA s 146(2).
170 See Rumsey "Terrestrial Wild Animals" 421-422.

of 1983, *Bophuthatswana Nature Conservation Act* 3 of 1973, *Bophuthatswana Protected Areas Act* 24 of 1987 and *Problem Animal Control Ordinance* 26 of 1957 in Northwest Province; *Mpumalanga Nature Conservation Act* 10 of 1998 in Mpumalanga; and *Limpopo Environmental Management Act* 7 of 2003 in Limpopo.

In the provincial legislation, the dominant trend is to classify all species of eagle as Protected Wild Animals,[171] or Protected Game.[172] Hunting of such species without a permit is illegal.[173] In some provincial laws "hunting" is defined to include egg collecting or destruction, while other laws define a Protected Animal or Game to include an egg of such a species. Accordingly, collecting or destroying an egg of these species is also illegal in the absence of a permit.[174] A number of other acts are illegal in respect of Wild Animals or Game, inclusive of species defined as Protected, *inter alia*: catching;[175] poisoning;[176] selling;[177] purchasing;[178] importing;[179] exporting[180] and various related activities.[181]

---

171 Eg *Limpopo Environmental Management Act* 7 of 2003 s 1 schedule 3; *Nature and Environmental Conservation Ordinance* 19 of 1974 s 2 schedule 2.

172 Eg *Mpumalanga Nature Conservation Act* 10 of 1998 s 4(1)(b) schedule 2; *Nature Conservation Ordinance* 12 of 1983 s 15(1)(a) schedule 2; *Nature Conservation Ordinance* 8 of 1969 s 2(1) schedule 1.

173 Eg *Limpopo Environmental Management Act* 7 of 2003 s 31(1)(b); *Mpumalanga Nature Conservation Act* 10 of 1998 s 6; *Nature Conservation Ordinance* 12 of 1983 s 16; *Nature and Environmental Conservation Ordinance* 19 of 1974 s 27(1); *Nature Conservation Ordinance* 8 of 1969 s 2(3).

174 Eg *Limpopo Environmental Management Act* 7 of 2003 s 1 definition of "hunt"; *Nature Conservation Ordinance* 12 of 1983 s 1 definition of "hunt"; *Mpumalanga Nature Conservation Act* 10 of 1998 s 1 definition of "hunt"; *Nature and Environmental Conservation Ordinance* 19 of 1974 s 2 definition of "wild animal"; Nature Conservation Ordinance 8 of 1969 s 1 definition of "wild animal" read with the definition of "protected game".

175 Eg *Limpopo Environmental Management Act* 7 of 2003 s3 5; *Nature Conservation Ordinance* 12 of 1983 s 25; *Mpumalanga Nature Conservation Act* 10 of 1998 s 16; *Nature and Environmental Conservation Ordinance* 19 of 1974 s 27(1) read with s 2 definition of "hunt".

176 Eg *Limpopo Environmental Management Act* 7 of 2003 s 40; *Nature Conservation Ordinance* 12 of 1983 s 31; *Mpumalanga Nature Conservation Act* 10 of 1998 s 21; *Nature and Environmental Conservation Ordinance* 19 of 1974 s 32.

177 Eg *Limpopo Environmental Management Act* 7 of 2003 s 41(1)(a); *Nature Conservation Ordinance* 12 of 1983 s 32; *Mpumalanga Nature Conservation Act* 10 of 1998 s 23; *Nature and Environmental Conservation Ordinance* 19 of 1974 s 41.

178 Eg *Limpopo Environmental Management Act* 7 of 2003 s 41(1)(a); *Nature Conservation Ordinance* 12 of 1983 s 34; *Mpumalanga Nature Conservation Act* 10 of 1998 s 24.

179 Eg *Limpopo Environmental Management Act* 7 of 2003 s 41(1)(b); *Nature Conservation Ordinance* 12 of 1983 s 41; *Mpumalanga Nature Conservation Act* 10 of 1998 s 31; *Nature and Environmental Conservation Ordinance* 19 of 1974 s 44(a).

180 Eg *Limpopo Environmental Management Act* 7 of 2003 s 41(1)(b); *Nature Conservation Ordinance* 12 of 1983 s 42; *Mpumalanga Nature Conservation Act* 10 of 1998 s 32; *Nature and Environmental Conservation Ordinance* 19 of 1974 s 44(a).

Exceptions to this general trend in provincial legislation exist, insofar as the Bateleur and Martial Eagle are classified as Specially Protected Wild Animals in Limpopo;[182] and the Bateleur as a Specially Protected Bird in KwaZulu-Natal.[183] This is probably immaterial in view of the heightened status that these two species, plus the Tawny Eagle and Southern Banded Snake Eagle, enjoy in terms of NEMBA and the NEMBA lists. The national legislation will override the provincial legislation in respect of these four species. The highest level of protection is bestowed on eagles by the *Nature Conservation Act (Ciskei)*.[184] In terms of this Act, the Martial, Crowned, Verreaux's (Black), and African Fish Eagle are Specially Protected Wild Animals,[185] and all the other eagle species are Protected Wild Animals.[186] The difference between the conservation of Specially Protected Wild Animals and Protected Wild Animals under the Ciskei Act relates mainly to further restrictions that are placed on the processing of carcasses or parts thereof in respect of Specially Protected Wild Animals.[187]

Furthermore, in KwaZulu-Natal eagle species other than the Bateleur are not classified as Specially Protected Birds, and fall into the category of Wild Birds, but without a permit it is nevertheless illegal, among other things, to kill or capture Wild Birds,[188] or to buy or sell them,[189] and the nests and eggs of the breeding species are also protected from removal or destruction[190] and purchase or sale.[191] A significant difference in this regard between the Bateleur, as Specially Protected Bird, and the other eagle species, as Wild Birds, relates to the authority that may issue a permit. In the case of Wild Birds an application for a permit must be made to the Secretary of the KwaZulu-Natal Nature Conservation Board and the permit can

---

181 Eg *Limpopo Environmental Management Act* 7 of 2003 ss 41-43; *Nature Conservation Ordinance* 12 of 1983 ss 35-39; *Mpumalanga Nature Conservation Act* 10 of 1998 ss 25-30; *Nature and Environmental Conservation Ordinance* 19 of 1974 s 42.

182 *Limpopo Environmental Management Act* 7 of 2003 schedule 2.

183 *Nature Conservation Ordinance* 15 of 1974 schedule 9.

184 *Ciskei Nature Conservation Act* 10 of 1987.

185 Sections 1, 7(a), schedule 1 of the *Ciskei Nature Conservation Act* 10 of 1987.

186 Sections 1, 7(b), schedule 2 of the *Ciskei Nature Conservation Act* 10 of 1987.

187 Compare ss 8 and 9 of the *Ciskei Nature Conservation Act* 10 of 1987.

188 The *Nature Conservation Ordinance* 15 of 1974 s 114(1) provides that no person shall at any time kill or capture any wild bird without a permit granted to him in terms of s 117.

189 *Nature Conservation Ordinance* 15 of 1974 s 115(1).

190 *Nature Conservation Ordinance* 15 of 1974 s 114(2).

191 *Nature Conservation Ordinance* 15 of 1974 s 115(2).

be issued by an officer of the Board,[192] whereas a permit allowing the killing or capture of a Specially Protected Bird can be issued only after prior approval of the Premier of the province.[193]

In the provincial laws important exceptions to the prohibition on hunting are made in respect of owners of land. This can take the form that the owner of land (and certain persons associated with the owner, such as relatives, employees and other persons authorised by him or her) may hunt protected species without a permit,[194] or it may be possible for such person to obtain permits to hunt such species while other people may not obtain such permits.[195] In some provincial laws this kind of exception pertains to Ordinary Game only, and to hunt protected species a permit remains a prerequisite.[196]

The provincial legislation typically also makes provision for the creation of protected areas such as provincial nature reserves.[197]

4 Locus standi

The provisions dealing with *locus standi* in environmental law matters in South Africa are now exceptionally inclusive. NEMA provides that any person or group of persons may seek appropriate relief for a breach or threatening breach of any provision of NEMA or any other statutory provision concerned with the protection of the environment or the use of natural resources, in own interest or, *inter alia*, in the interest of a group or class of persons whose interests are affected, in the public

192 *Nature Conservation Ordinance* 15 of 1974 ss 116-117.
193 *Nature Conservation Ordinance* 15 of 1974 s 114(1).
194 Eg *Nature and Environmental Conservation Ordinance* 19 of 1974 s 27.
195 Eg *Nature Conservation Ordinance* 12 of 1983 ss 16, 16A.
196 Eg *Nature Conservation Ordinance* 8 of 1969 ss 2, 5.
197 Eg *Nature and Environmental Conservation Ordinance* 19 of 1974; *Western Cape Nature Conservation Board Act* 15 of 1998; *Ciskei Nature Conservation Act* 10 of 1987; *Northern Cape Nature Conservation Act* 9 of 2009; *Nature Conservation Ordinance* 15 of 1974; *Kwa-Zulu Nature Conservation Act* 29 of 1992; *Kwa-Zulu Heritage Act* 10 of 1997; *Kwa-Zulu Nature Conservation Management Act* 9 of 1997; *Nature Conservation Ordinance* 12 of 1983; *Mpumalanga Nature Conservation Management Act* 10 of 1998; *Limpopo Environmental Management Act* 7 of 2003.

interest or in the interest of protecting the environment.[198] The *Constitution* also contains an inclusive *locus standi* provision in respect of an infringement or threatened infringement of any right in the Bill of Rights.[199] NEMA furthermore provides that a court may decide not to award costs against a person or group of persons who have unsuccessfully sought relief in respect of any breach or threatening breach of NEMA or a specific environmental management act or any statutory provision concerned with the protection of the environment or the use of natural resources, if the court is of the opinion that the person or group of persons acted reasonably out of a concern for the public interest or an interest in protecting the environment and had made due efforts to use other means reasonably available for obtaining the relief.[200] The effect of these provisions is that an organisation or individual who is concerned about violations of laws pertaining to the conservation status of eagles and who wishes to seek a remedy for this in court should not be denied legal standing and should not be unduly dissuaded from litigation by a fear of a cost order in case of being unsuccessful in court.[201]

5 Evaluation

Kemp clearly delineates three basic approaches to bird conservation.[202] First, the habitat of a species can be conserved, and this will also benefit other species in the area. Management of the habitat may be necessary to maintain it in the best condition, and may thus form part of this first approach. Second, management practices that are aimed directly at a particular species may be applied in the habitat. Examples could be to supplement food or nest sites. Third, a threatened species may be taken into captivity and an attempt be made to bolster its numbers by captive breeding. Kemp comments that these three options are presented in

198 Section 32(1) of NEMA. See Feris "Environmental Rights and *Locus Standi"* 148-150.

199 Section 38 of NEMA.

200 Section 32(2) of NEMA.

201 This is not to say that environmental litigants should not carefully verify their facts before approaching a court of law. See *Wildlife and Environmental Society of Southern Africa v MEC for Economic Affairs, Environment and Tourism, Eastern Cape* 2005 6 SA 123 (E); Burns and Kidd "Administrative Law" 266-267; Couzens 2007 *SAJELP* 217-225.

202 Kemp *The Hornbills* 75. Kemp deals specifically with the conservation of hornbills, order *Bucerotiformes*, but it is assumed that the principles elaborated by him are also applicable to eagle conservation.

order of increasing focus on individuals rather than entire populations, and also in increasing order of cost, and in a decreasing order of preference.

Kemp's analysis may be applied to provide a framework for evaluating the conservation status of eagles in South African law, thus inquiring whether the law sufficiently facilitates and regulates (1) the protection of the habitat of the various eagle species; (2) management targeted at species; and (3) captive breeding.

5.1 Protection of habitat

There can be no doubt that the large protected areas in South Africa are of immense importance for eagle conservation.[203] The best example of this is the Kruger National Park. The park is very large at nearly two million hectares, and forms the core of a much larger effective conservation area in South Africa, because several private game reserves and game farms border on the western boundary of the Park. With the exception of the Southern Banded Snake Eagle, all the eagle species occurring in South Africa have been recorded in the Park.[204] The park houses important breeding populations of six eagle species,[205] and four other species have also been known to breed in the Park or in adjacent private nature reserves.[206] In this regard, it is particularly important that three of the species that breed in significant numbers in the Park are species that are listed as Vulnerable in the NEMBA lists, namely the Bateleur, Tawny Eagle and Martial Eagle. The Kruger National Park is therefore of key importance for the conservation of these three species in South Africa. Moreover, because the Bateleur and Martial Eagle are listed as Near Threatened by

---

203 Barnes (ed) *Important Bird Areas* 39 refers to the continued existence of viable populations of some large raptors as "[p]erhaps the most significant achievement", in ornithological terms, of the South African network of protected areas. Note, however, that all doubts in respect of the viability of those populations have not been completely eradicated, as will be argued towards the end of this paragraph.

204 See sources mentioned in fn 3; Newman *Kruger National Park* 66-74.

205 African Fish Eagle, Bateleur, Tawny Eagle, African Hawk-Eagle, Wahlberg's Eagle, and Martial Eagle. See Barnes and Tarboton "Northern Province" 51-52; Tarboton, Kemp and Kemp *Birds of the Transvaal* 47-53.

206 Brown Snake Eagle, Black-chested Snake Eagle, Verreaux's Eagle, and Crowned Eagle. See Kemp *Distribution and Status* 23, 26; Newman *Kruger National Park* 66, 72, 74. The Brown Snake Eagle is a relatively common raptor in the Park at times, and because its nest is small and sited in cryptic situations, a more important breeding population may be present than is suggested by the few breeding records for this species in the Park. See Kemp *Distribution and Status* 26; Tarboton and Allan *Status and Conservation* 57.

the International Union for Conservation of Nature (IUCN),[207] the Kruger National Park is a key site for the global conservation of these two species. The Park is also an important non-breeding destination of migrant species. The Lesser Spotted Eagle, in particular, is a regular visitor in the southern summer and occurs in significant, and sometimes spectacular, numbers.[208] The conservation status of the Lesser Spotted Eagle is a subject of concern in parts of its breeding grounds in Europe, and on parts of its annual migratory route.[209] The safe foraging fields of the Kruger National Park are an important component of its conservation in its non-breeding quarters. The numbers of visiting Steppe Eagle fluctuate even more, but large influxes have been recorded.[210] The Kruger National Park is regarded by BirdLife International, the largest partnership of conservation organisations in the world,[211] as an Important Bird Area (IBA).[212] To qualify as an IBA an area must meet standardised criteria based on the occurrence of key bird species that are vulnerable to global extinction or whose populations are otherwise irreplaceable. Furthermore, an IBA should ideally be large enough to support self-sustaining populations of as many of the key species it has been identified for, or in the case of migrants, fulfill their requirements during their presence.[213]

Other conservation areas of special importance for eagle populations include the Kgalagadi Transfrontier Park, and a clustre of reserves in northern KwaZulu-Natal.[214]

---

207 The IUCN is the world's oldest and largest global environmental organisation, and maintains a Red List of species (IUCN 2013 www.iucnredlist.org) in which the global conservation status of species is reflected. This is not a legal document, but it influences the conservation status given to species in environmental legislation worldwide.

208 Biggs 2001 *Africa Birds & Birding* 16-17; Simmons "Lesser Spotted Eagle" 181; Kemp *Distribution and Status* 23.

209 Jais 2009 europeanraptors.org.

210 Newman *Kruger National Park* 70. Older sources state that the Lesser Spotted Eagle visits South Africa in smaller numbers than the Steppe Eagle. See Tarboton and Allan *Status and Conservation* 37; Tarboton, Kemp and Kemp *Birds of the Transvaal* 48; Simmons "Lesser Spotted Eagle" 181, but see Kemp *Distribution and Status* 23, 338. In more recent years the trend has reversed and the Lesser Spotted Eagle has been recorded more frequently and in greater numbers. More accurate identification may partially account for this difference. The more recent results are in accordance with current insights, aided by satellite telemetry studies, that most Lesser Spotted Eagles spend the non-breeding season further south in Africa than most Steppe Eagles. See Ferguson-Lees and Christie *Raptors of the World* 725, 734.

211 BirdLife International Date Unknown www.birdlife.org.

212 Barnes and Tarboton "Northern Province" 50.

213 BirdLife International Date Unknown www.birdlife.org.

214 iMfolozi, Hluhluwe, Mkuzi, Ndumo, Thembe, iSimangaliso and Ithala.

These areas support important breeding populations of Bateleur, Tawny Eagle and Martial Eagle,[215] as well as a number of other species.[216] The iSimangaliso Wetland Park centred on Lake St Lucia is of key importance for the Southern Banded Snake Eagle,[217] the fourth South African eagle species listed as Vulnerable in the NEMBA lists and the third such species listed as Near Threatened by the lUCN. The species also occurs in other protected areas in Northern KwaZulu-Natal.[218] All these areas have been identified as IBA's by BirdLife International.[219]

Many South African mountain ranges are protected or partially protected in national parks, nature reserves, world heritage sites, mountain catchment areas or forestry areas, especially in the Western Cape and Eastern Cape Provinces, but also elsewhere. These ranges and their foothills are important for the conservation of the Verreaux's Eagle and the South African breeding population of the Booted Eagle,[220] and may also host small numbers of the Martial Eagle and, in some regions, the Crowned Eagle.[221] Several protected and partially protected forested areas are

215 Barnes and Anderson "Northern Cape" 105; Johnson, Barnes and Taylor "KwaZulu-Natal" 143, 151-152, 158-159.

216 Black-chested Snake Eagle in the Kgalagadi, and African Fish Eagle, Brown Snake Eagle, Southern Banded Snake Eagle, Wahlberg's Eagle, Long-crested Eagle and Crowned Eagle in KwaZulu-Natal.

217 Berruti "Southern Banded Snake Eagle" 200; Hockey, Dean and Ryan (eds) *Roberts Birds of Southern Africa* 496; Johnson, Barnes and Taylor "KwaZulu-Natal" 154-155.

218 Johnson, Barnes and Taylor "KwaZulu-Natal" 143, 145, 151-152.

219 Barnes (ed) *Important Bird Areas* 42-43. The South African section of the Kgalagadi Transfrontier Park was known as the Kalahari Gemsbok National Park. The core area of the iSimangaliso Wetland Park was constituted by a cluster of reserves centred on Lake St Lucia. The official spelling of the names of some of these reserves has changed, eg from Umfolozi to iMfolozi.

220 The Booted Eagle occurs in two breeding populations, a large one in the Palearctic Region of the Northern Hemisphere, and a much smaller one in the southern parts of Africa, mainly in the Western Cape, Eastern Cape and Northern Cape provinces of South Africa, and supplemented by a small, isolated breeding population in Namibia. See Boshoff and Allan "Booted Eagle" 184; Ferguson-Lees and Christie *Raptors of the World* 758; Steyn *Birds of Prey of Southern Africa* 83-84.

221 See eg Barnes "Eastern Cape" 208; Barnes "Western Cape" 225, 227-228, 237, 239, 242, 248-249, 251-252; Barnes "North-west Province" 98; Barnes and Tarboton "Northern Province" 53-54, 55, 56-57, 59; Barnes and Tarboton "Mpumalanga" 67-68. The Ukhahlamba-Drakensberg Park, which is of key conservation importance for such birds of prey as Cape Vulture *Gyps coprotheres* and Bearded Vulture *Gypaetus barbatus* also holds small numbers of Verreaux's, Martial and Crowned Eagle. See Johnson, Barnes and Taylor "KwaZulu-Natal" 165-166.

important for the conservation of eagles, in particular the Crowned Eagle.[222] Many of these partially protected areas have been identified as IBAs.[223]

Biosphere reserves are sites recognized in terms of a programme of the United Nations Organization for Education, Science and Culture (UNESCO)[224] to promote sustainable development based on local community efforts combined with scientific input.[225] Six such reserves have been established in South Africa,[226] and some of them, such as the Waterberg Biosphere Reserve[227] and the Kruger to Canyons Biosphere Reserve[228] are important for eagle conservation. In South Africa, biosphere reserves are not proclaimed under a specific Act and hence have no legal status.[229] Conservancies, another category of protected areas, are protected areas created by contract rather than under specific biodiversity laws,[230] and also contribute to the network of protected areas that ensure the continued existence of a wide range of South African habitats, many of them suitable to support eagle populations.

While large protected areas are undoubtedly of immense importance for eagle conservation, the other side of the coin is that the majority of South African protected areas are too small to protect eagles adequately. The large territories required by breeding eagles, in combination with the powers of flight of eagles, imply that only the largest nature reserves and other protected areas can sustain viable eagle populations within their borders.[231] A pair of eagles may have their nest in a reserve and yet hunt over farmland on an almost daily basis, where their predatory habits may bring them into conflict with the human occupants of the land.

222 See eg Barnes and Tarboton "Northern Province" 53-54, 56-57; Barnes and Tarboton "Mpumalanga" 66-68, 78-79; Johnson, Barnes and Taylor "KwaZulu-Natal" 167-170, 174-175, 179, 193-196; Barnes "Eastern Cape" 198-199, 201-202, 204-207, 210-212, 217-218.
223 Barnes (ed) *Important Bird Areas* 42-43.
224 UNESCO Date Unknown www.unesco.org.
225 See in general Müller "Environmental Governance" 85-86.
226 UNESCO Date Unknown www.unesco.org.
227 Waterberg Biosphere Reserve Date Unknown www.waterbergbiosphere.org.
228 Kruger to Canyons Biosphere Reserve Date Unknown www.kruger2canyons.org.
229 Claassen "Spatial Planning" 934; Kidd *Environmental Law* 124.
230 Glazewski and Du Toit (eds) *Environmental Law* 341; Kidd *Environmental Law* 124.
231 Newton *Population Ecology* 265.

In the former Transvaal Province, Tarboton and Allan concluded that no provincial reserve was large enough to protect a single breeding pair of Martial Eagles.[232]

There is even some doubt about whether the largest conservation areas, like the Kruger National Park, are large enough to support viable populations of large birds of prey such as the Martial Eagle.[233] In respect of vultures, great pessimism exists in conservation circles about their conservation,[234] even though the Kruger National Park houses significant populations of four species.[235] These birds range over wide areas searching for carrion, and this means that while they may nest in the Park, they may frequently forage over neighbouring land where a single poisoned carcass can attract and kill a large number of them. In comparison, territory-holding Martial Eagles are unlikely to range so widely, and the Kruger National Park is sufficiently large for many pairs to have territories that are situated entirely within the Park, thus minimising the potential of those pairs to range outside the Park. However, pairs that have their territories on the periphery of the Park may forage in unprotected areas, where illegal shooting and other threats are a reality. Perhaps more significantly, after fledging from the nests, juvenile eagles usually disperse some distance away from their natal areas, and some immature birds may wander quite widely.[236] The juvenile dispersal of Martial Eagles has not been studied comprehensively, and it is unknown where these birds go after they become independent of their parents. It is probable that many of them end up on farmland and get shot, perhaps because in their inexperience they attempt to hunt poultry or lambs. In general, it is a known trend that raptor mortalities are disproportionately high in young birds in the first year of their lives.[237] If the wanderings of such young birds take them outside protected areas, their potential to meet with an early end

232 Tarboton and Allan *Status and Conservation* 53.

233 Percy FitzPatrick Institute of African Ornithology 2013 *African Birdlife* 18.

234 See eg Steyn and Arnott *Hunters* 14, and for a global overview Ogada, Keesing and Virani 2011 *Ann NY Acad Sci* 1-15.

235 Barnes and Tarboton "Northern Province" 51-52.

236 In the case of the Spanish Imperial Eagle *Aquila adalberti*, the subject of some of the most concerted conservation efforts in the world, detailed research on juvenile dispersal was conducted to inform conservation management decisions. See eg Ferrer *Spanish Imperial Eagle* 129-162.

237 In 1979, Newton *Population Ecology* 203 pointed out that in all raptor species that had been studied in the wild, more than half of the birds that fledged died in their first year.

becomes greater, and their potential to become mature breeding birds which can contribute to the continued existence of the species is accordingly diminished.

A decline in the numbers of juvenile birds will also result in a decline of the pool of unattached sexually mature birds. Such mature but unattached birds are of great importance for the continued existence of the species, because if a member of a territory-holding pair dies, the remaining bird would need to find a new mate from the ranks of unattached birds.[238] If the pool of unattached birds is large, lost breeding birds may be replaced quickly and the overall rate of reproduction of the species may not be affected negatively. If the pool of unattached birds is small, territory-holding birds may find it difficult to replace lost mates, the rate of reproduction may slow down, and, especially if a species occurs naturally in such low densities as a Martial Eagle,[239] the numbers of the population as a whole may start to decline. If the numbers of a declining population go lower than a certain critical threshold, it may become impossible to halt the decline of the species.[240] Other eagle species, although they may occur in higher densities than Martial Eagles, may also be at risk in this way, and Bateleurs and Tawny Eagles that venture outside protected areas are particularly vulnerable to poisoning because carrion constitutes a large part of their diet.

Thus, one can conclude that the larger protected areas are of immense importance in eagle conservation in South Africa, but that additional conservation measures aimed at the protection of eagles outside of protected areas are also needed.[241]

5.2 Protection of species in their habitats

When evaluating whether or not the law adequately facilitates and regulates the species-targeted management of eagles in their habitats, a logical point of departure is to consider the known conservation threats faced by eagles in South Africa and to

238 See eg Penteriani, Ferrer and Delgado 2010 *Animal Conservation* 233-241.
239 See Newton *Population Ecology* 64; Steyn *Birds of Prey* 105.
240 See eg Swift and Hannon 2010 *Biol Rev* 35-53.
241 The role of South African law in respect of such additional measures is evaluated in para 5.2 and 5.3.

take note of the extent to which such threats are addressed by the law. As seen,[242] these threats comprise intentional killing, trade in eagles and their eggs, non-targeted poisoning, dangerous structures and disturbance.

5.2.1 Intentional killing

If the relevant provisions of NEMBA[243] and the applicable provincial legislation[244] are considered together, the law protects all South African eagle species against intentional killing. Taken at face value, the position is satisfactory. However, it is not entirely beyond criticism, and a number of observations may be of value in this regard.

A first point of criticism pertains to the complexity of the environmental laws contributing to the conservation status of eagles, and for that matter, all species of birds of prey.[245] As seen, many provincial laws have concurrent jurisdiction with NEMBA. While all eagle species are protected by the provincial laws, only four species are listed as Vulnerable and are therefore directly protected by NEMBA, read with the lists of Critically Endangered, Endangered, Vulnerable and Protected Species.[246] The listing of the Bateleur, Tawny Eagle, Martial Eagle and Southern Banded Snake Eagle as Vulnerable appears to be well-considered. However, the IUCN recently reconsidered the status of the Crowned Eagle and changed it from Least Concern to Near Threatened. This is a reflection of the global rather than the South African status of the species, and in the light of this the Crowned Eagle should arguably be categorised as Protected, at the very least, in the NEMBA lists.

A Red Data Book is published for South African bird species, and this contains an assessment of the status of rarer bird species on a national level. The current Red

242 Paragraph 2.2 above. Because habitat loss has been dealt with, it is omitted from the present list.
243 Paragraph 3.3.4 above.
244 Paragraph 3.4 above.
245 The complexity and fragmented nature of South African biodiversity laws are often criticised. See Kidd *Environmental Law* 100-101.
246 Paragraph 3.3.4 above.

Data Book[247] was published in 2000 and is therefore outdated. BirdLife South Africa[248] is in the process of completing a new Red Data List for the birds of South Africa, Lesotho and Swaziland. This project is informed by the Southern African Bird Atlas Project 2 (SABAP 2)[249] and other data-gathering initiatives, and will provide the most up-to-date information on the conservation status of South African birds. At a conference of the Bird of Prey Programme of the Endangered Wildlife Trust, held in Phalaborwa in May 2013, Mr Martin Taylor of BirdLife South Africa gave delegates a preview of changes in the Red Data status of South African birds of prey. In respect of eagles, the Bateleur, Martial Eagle, Tawny Eagle and Southern Banded Snake Eagle will be listed as Endangered, while the Crowned Eagle and the Verreaux's Eagle will be listed as Vulnerable in the new Red Data list. Clearly, the NEMBA lists are out of step with the latest scientific information on the conservation status of these species.

In respect of the twelve eagle species that are not listed in the NEMBA lists, the great number of potentially applicable provincial laws complicates any inquiry into the legal status of those species. Furthermore, the protection offered by provincial laws is weaker than that offered by NEMBA, because the criminal penalties provided for in the provincial laws are typically lighter than those provided for in the national legislation.[250] Also, the level of protection of a given species may differ from province to province. All these considerations raise the question of whether or not it would not have been better to have all eagle species, and indeed all bird of prey species, listed as Protected in terms of NEMBA.

Some indication of the thought processes behind the listing process in NEMBA can be gathered from an electronic newsletter issued by the erstwhile Department of Environmental Affairs and Tourism (DEAT) but still available for perusal on the

247 Barnes *Red Data Book*.
248 BirdLife South Africa Date Unknown www.birdlife.org.
249 SABAP 2 Date Unknown sabap2.adu.org.za.
250 In addition, sight should not be lost of the possibility of strengthening penalties in terms of the national biodiversity legislation by recourse to NEMA in certain circumstances, as stated in para 3.3.4 above.

website of the South African National Biodiversity Institute (SANBI).[251] From this document it is evident that the Department proceeded from a quite conservative basis, seeking to generate species lists that were "lean and targeted". Clearly, the Department did not want to overburden the various authorities tasked with biodiversity conservation with lengthy lists. Furthermore, the newsletter emphasises that listing a species in one of these categories was only one of the tools created by NEMBA by which species could be conserved. Such a listing would protect a species against the listed restricted activities only, which did not in the view of the Department include habitat destruction. If a species could be successfully conserved by protecting its habitat, then the listing of threatened and protected ecosystems in terms of NEMBA,[252] coupled with the identification of threatening processes[253] and the linking of these with the NEMA Section 24 requirements would be the legal instrument of choice, in which case listing as a threatened or protected species was undesirable. It is likely that these commendable considerations informed the brevity of the list of threatened and protected eagles.

However, on closer analysis it is evident that these considerations were not applied consistently in respect of the South African eagle species. First, the main page of SANBI relating to NEMBA and the NEMBA lists explicitly state that no specific criteria were formulated by which listing was guided, and the Department was guided by expert opinions instead.[254] This appears to indicate that the conservatism communicated in the electronic newsletter was not elevated to a binding principle. Second, an analysis of the position of the Southern Banded Snake Eagle is revealing. The main threat to that species is undoubtedly habitat destruction.[255] Very few, if any, of the listed Restricted Activities have been documented as impacting on the survival of the species. If the reasoning in the newsletters had been followed, the habitat of this species should have been listed, and it would not have been a candidate for listing itself as a Threatened or Protected Species. The fact that it has been listed as Vulnerable is therefore an indication that other considerations could

251 DEAT 2004 www.speciesstatus.sanbi.org.
252 Section 52 of NEMBA.
253 In terms of s 53 of NEMBA.
254 DEAT 2004 www.speciesstatus.sanbi.org.
255 Paragraph 2.2.2.2 above.

override the reasoning in the newsletter. In the case of the Southern Banded Snake Eagle, the rarity and limited distribution range of the species probably compelled the experts whose input shaped the lists to request its listing even though its conservation will probably stand or fall by the success of the conservation of its habitat.

In addition to the fact that the considerations articulated in the DEAT newsletter were not consistently applied, they may be subject to criticism in the case of eagles in particular and birds of prey in general. On the one hand, the idea of keeping the relevant biodiversity laws "lean" and simple to enforce can be supported. However, it is submitted that an approach that results in the listing of only four eagle species would not necessarily be the best way to go about this. It is a well-known fact in ornithological circles that many birds of prey are difficult to identify. If ornithologists experience identification problems with birds of prey, it is unreasonable to expect the authorities who must enforce biodiversity legislation and the citizens who are subjected to those laws to be immune from such problems. Looking specifically at the eagle species listed as Vulnerable, the Tawny Eagle is easily confused with other brown eagles such as the Steppe, Lesser Spotted and Wahlberg's Eagles;[256] the Martial Eagle is known often to be confused with the Black-chested Snake Eagle;[257] and the Bateleur can conceivably be confused with the Jackal Buzzard and, in immature plumage, with the Brown Snake Eagle.[258] In view of the well-documented danger of raptors being misidentified, the simplest way of promoting "lean and manageable" biodiversity laws in respect of raptors is to list all species (except those already listed in one of the three threatened categories) as Protected.

In this regard it is worth noting that a precedent can be found in American law for amending legislation to include more species in the ambit of protection, based *inter alia* or the same type of grounds as those that have just been presented. The *Bald Eagle Protection Act* was enacted to protect a single eagle species, the Bald Eagle,[259]

256 Ferguson-Lees and Christie *Raptors of the World* 732; Kemp and Kemp *Birds of Prey* 81.
257 Ferguson-Lees and Christie *Raptors of the World* 793; Kemp and Kemp *Birds of Prey* 75.
258 Ferguson-Lees and Christie *Raptors of the World* 456; Kemp and Kemp *Birds of Prey* 55.
259 *Haliaeetus leucocephalus*.

the national symbol of the USA. The Act was later amended to protect another species also, the Golden Eagle,[260] and thus became the *Bald and Golden Eagle Protection Act*.[261] In addition to the realisation that extending protection to the Golden Eagle was a worthy goal in itself, a second reason for the amendment related to the danger that immature individuals of the two species could be misidentified, and hence immature Bald Eagles were vulnerable to be shot in the mistaken belief that they were immature Golden Eagles. The amendment of the Act therefore had the beneficial secondary effect of enhancing the protection of the Bald Eagle, and this was explicitly recognised in enacting the amendment.[262]

Other compelling reasons exist to have all eagles, and indeed all species of birds of prey occurring in South Africa listed in NEMBA. The fact that only four eagle species are listed in NEMBA arguably creates the impression that the conservation of only four eagle species is a goal of national importance, while the conservation of the remaining twelve species is a matter of provincial importance only. It is submitted that this sends the wrong signal to the people of South Africa. The law also has an educational function, serving to inform the citizens of the national goals a state sets for itself.[263] The national biodiversity laws of the state should communicate the protection of all bird of prey species as a national goal. To give a special protection status only to species that have already reached a certain level of vulnerability is potentially an expensive form of conservation. Most birds of prey species have, in the absence of measures aimed at their protection, the potential to become endangered species.[264] Factors contributing to this potential include the natural low densities and relatively small numbers in which raptors tend to occur; the recognised trend of most raptor species to be declining in numbers; the vulnerability of raptors as apex predators at the top of the food chain to all kinds of environmental maladies; the known history of both intentional persecution and indirect killing of

260 *Aquila chrysaetos*.

261 *Bald and Golden Eagle Protection Act* 16 USC 668-668d.

262 *Joint Resolution: To Provide Protection for the Golden Eagle* Pub L 87-884, Oct 24 1962, 76 Stat 12466; see further Wisch 2002 www.animallaw.info.

263 Already in 1988 Glavovic (1988 *SALJ* 528) wrote that "By enlightened definition and application, the law itself is able to make a major contribution to conservation education. "

264 Temple "Conservation and Management" 209.

raptors by human hands; and so forth.[265] To bring a species that has become endangered back from the brink of extinction is a costly exercise.[266] A more cost-effective strategy, and one more in line with the precautionary principle of environmental law would be to implement conservation measures in respect of low-density species while their populations are still relatively healthy, to prevent them from sliding into a state of vulnerability. It should also be remembered that conservation measures aimed at conservation of habitat are not necessarily sufficient in the case of birds of prey. In the case of plant species, habitat protection may conceivably be sufficient, if illegal collecting can be eliminated or minimised. Even in the case of large mammals habitat protection may be sufficient, if the mammals can effectively be contained by fences and be protected against the dangers of poaching. However, as noted above,[267] in the case of creatures as mobile as eagles, habitat protection, while undoubtedly essential, may on its own not be sufficient to safeguard the continued existence of the species.

It should be borne in mind that NEMBA authorises the Minister, in addition to lists of Critically Endangered, Endangered, and Vulnerable species, to publish a list of Protected Species. The criterion for listing as Protected is that the species is of such high conservation value or national importance that it requires national protection, although it is not listed in one of the aforementioned categories.[268] It is submitted that all eagle species not listed as critically endangered, endangered or vulnerable, and indeed all bird of prey species that are not so listed, comply very emphatically with this criterion, and should be listed as Protected. It is also noteworthy that, in enumerating factors that must be taken into consideration in sustainable development, NEMA states explicitly that there must be intergovernmental coordination and harmonisation of policies, legislation and actions relating to the

265 Temple "Conservation and Management" 208.

266 See López-López et al 2011 www.plosone.org for an indication of the costs involved in saving the Spanish Imperial Eagle *Aquila adalberti* in Spain. From 1992 to 2009 nearly €2,6 million was spent on mitigating the dangers posed to the species by power pylons, and the total amount spent on the species amounted to €4 481 665. See further Sánchez, González and Barov 2008 ec.europa.eu for an exposition of the impressive variety of conservation actions taken to conserve the species.

267 Paragraph 5.1.

268 Section 56(1)(d of NEMBA.

environment.[269] Clearly, this principle is not upheld by the current proliferation of biodiversity laws and would be much better served by a uniform and comprehensive listing of all raptor species in terms of the national biodiversity legislation.

In summary, the legal conservation status of eagle species in respect of intentional killing is basically satisfactory, but could be improved and rationalised.

5.2.2 Trade in eagles and their eggs

The relevant provisions of NEMBA, the TOPS Regulations, and the prohibition against trade contained in the provincial laws give effect to CITES and protect eagles and their eggs from illegal trade.

5.2.3 Non-targeted poisoning

The provisions in the TOPS Regulations dealing with the control of damage-causing animals and the provincial biodiversity laws contain safeguards that, if followed, should minimise the poisoning of non-targeted species such as eagles. A commentator has suggested that the *Animals Protection Act*[270] could be used to prosecute people who poison birds of prey.[271] However, the relevant provision is not aimed at persons using poisons for the "destruction of vermin", and because the majority of eagle poisonings are unintended consequences of poison being put out for "vermin" such as jackals or caracals, the practical usefulness of this Act in this context will probably be minimal.

5.2.4 Dangerous structures

There is no legislation targeted specifically at mitigating the mortalities of eagles and other birds caused by structures like power pylons, electric cables and wind-farm turbines. However, NEMA requires environment impact assessments to be done

269 Section 2(4)(l) of NEMA.
270 Section 2(d) of the *Animals Protection Act* 17 of 1962.
271 Loon 1995 *SAJELP* 173.

before new structures can be erected on a significant scale. If eagles and their needs were properly considered in such assessments, that might mitigate the dangers to them and aid in their conservation. In respect of the imminent introduction of wind-farms on a large scale in South Africa, the Endangered Wildlife Trust and Birdlife South Africa are already involved in environment impact assessment. *Best practice guidelines for avian monitoring and impact mitigation at proposed wind energy development sites in southern Africa* have been drawn up under the auspices of the Endangered Wildlife Trust and BirdLife South Africa.[272]

In respect of the massive network of power pylons and cables that was already in existence before environment impact assessments were made obligatory by the law, the Eskom-EWT Strategic Partnership works to mitigate dangers posed to birds. This is an entirely voluntary endeavour which was entered into by Eskom and the Endangered Wildlife Trust (EWT) in 1996, and is not driven by the law. Its benefits are twofold. The conservation of birds is served, and power interruptions caused by bird electrocutions and other bird-induced damage are minimised.[273] A case study of a successful intervention in respect of an eagle species dealt with a juvenile Crowned Eagle that had just left the nest and was frequently using an electricity pylon as a perch. In view of the young eagle's lack of flying skills, the danger of electrocution during clumsy landings or wing-flapping was deemed to be particularly great. Eskom staff promptly modified the particular pylon to eliminate this danger.[274]

The established culture of cooperation between Eskom and the EWT to mitigate electrocutions and collisions is a very positive outcome and demonstrates that conservation laws are not essential for sound conservation in all instances. However, the fact that environmental laws are not governing the (satisfactory) current situation makes its future implementation vulnerable to changes in the management, policy or finances of the two juristic persons involved.

272 Jenkins et al 2011 www.ewt.org.za.
273 EWT Date Unknown www.ewt.org.za.
274 Eskom 2010 financialresults.co.za.

In respect of farm reservoirs, in which birds of prey tend to drown, no specific legislative provisions are in force. The Endangered Wildlife Trust and provincial conservation authorities endeavour to bring these dangers to the attention of landowners and to advise on measures that can be taken to prevent or minimise drownings.[275]

5.2.5 Disturbance

Some provincial laws define "hunt" to include "disturb willfully"[276] and others contain provisions that prohibit disturbing the nest or eggs of any wild bird.[277] Some laws define "capture" to include "to pursue with intent to capture, catch or take", thus bringing intentional disturbance within their ambit.[278]

5.3 Captive breeding

As far as is known, no captive breeding programme with the aim of conserving eagles is currently operational in South Africa. Should this become necessary, the TOPS Regulations appear to contain adequate provisions to regulate and manage such endeavours.

6 Enforcement

A cause of concern in the conservation status of eagles in South African law relates to compliance and enforcement. Several commentators have voiced an opinion that the environmental laws in force in South Africa are impressive and do not display significant shortcomings. The reason why environmental management often falls short of the desired standards must rather be sought in inadequate compliance and

[275] See Anderson Date Unknown www.andersonafrica.co.za.

[276] Eg *Mpumalanga Nature Conservation Act* 10 of 1998 s 1; *Nature Conservation Ordinance* 12 of 1983 s 1; *Nature Conservation Ordinance* 8 of 1969 s 1; *Nature Conservation Ordinance* 15 of 1974 s 1.

[277] Eg *Nature Conservation Ordinance* 15 of 1974 s 114(2); *KwaZulu Nature Conservation Act* 29 of 1992 s 39(2).

[278] Eg *Nature and Environmental Conservation Ordinance* 19 of 1974 s 2.

enforcement.[279] Perhaps the most important contributory factor in this respect is a deficit in resources, both human and financial. Such constraints are reportedly experienced by environmental authorities worldwide, but can be expected to be particularly acute in developing countries such as South Africa.[280] Whereas the South African government and non-governmental organizations must receive credit for the commitment they have shown for environmental concerns, other more pressing issues vie for legislative attention and resource allocation. In the face of unemployment, water deficits, energy deficits, HIV/Aids, influxes of illegal immigrants from neighbouring territories, high levels of violent crime, and similar grave issues, biodiversity concerns recede in importance, even though sound environmental management and sustainable development are arguably prerequisites for addressing all of the issues perceived as more pressing. In addition to this, the comparatively small percentage of resources that does get allocated to environmental management is usually employed first to fight high-profile environmental misdeeds such as rhinoceros poaching for the illegal horn trade.

7 Enabling legislation that makes provision for positive management actions

Most of the legal provisions aimed at the protection of eagles and other forms of wildlife are negative in nature, is so far as they tend to prohibit the performance of certain acts, and often visit transgressions of these prohibitions with criminal sanctions such as fines or imprisonment. However, sight must not be lost of enabling legal provisions that create a possibility for positive management actions to be implemented. Examples are provisions relating to compulsory as well as discretionary conservation plans.[281] Such plans can be powerful instruments in the conservation of species. An inspirational international example of the use of such plans to reverse a catastrophic decline of an eagle species can be found in the conservation initiatives of Spain and the European Union in respect of the Spanish

279 Glazewski and Du Toit (eds) *Environmental Law* 117 *et seq*; Kidd *Environmental Law* 266 *et seq*; Paterson and Kotzé *Compliance and Enforcement* 1 *et seq*.
280 Lehmann "Voluntary Compliance Measures" 269.
281 Paragraph 3.3.4 above.

Imperial Eagle.[282] Not many Biodiversity Management Plans have been drafted in South Africa yet, and as far as could be ascertained none has yet dealt with an eagle species.[283] However, an enabling legal framework is in place and should be used to the benefit of South African biodiversity in general and eagles in particular.

8 Conclusion and recommendations

This contribution is an attempt to bring together, in a more or less structured and logically organised compendium, a commentary on the multitude of laws and other legal instruments that exercise a fairly direct influence on the conservation status of the eagles occurring in South Africa. Throughout, an attempt was made to engage critically with the material, but due to the vast scope and complexity of the subject, the critical remarks that are offered here still have a somewhat exploratory and tentative character. Critical research can be conducted in more depth in respect of several sub-topics identifiable from this contribution. Nevertheless, a number of recommendations may be made at this stage. Broadly, these recommendations may be grouped into two categories: (1) recommendations for law reform, and (2) recommendations for better application of the law as it stands today.

282 *Aquila adalberti*. See eg Sánchez, González and Barov 2008 ec.europa.eu. In 1974, a census yielded evidence of only 38 Spanish Imperial Eagle pairs in Spain, and the total population was estimated at no more than 50 pairs (González and Margalida (eds) *Biología* 148-149). By 2007, the Spanish population of the species had recovered to 232 pairs, and three pairs were known once again to occupy territories in Portugal, where the species had previously gone extinct (Sánchez, González and Barov 2008 ec.europa.eu 10).

283 See Kidd *Environmental Law* 105 who reported in 2011 that only one draft Biodiversity Management Plan, for an endangered cycad species, had been drawn up. Subsequently a few others have been drafted, *inter alia* for the African Penguin *Spheniscus demersus* and the Black Rhinoceros *Diceros bicornis*. In respect of birds of prey, a Biodiversity Management Plan for the Bearded Vulture *Gypaetus barbatus* has been drawn up and submitted to the Department of Environmental Affairs; see EWT 2011 www.ewt.org.za 27. At a conference of the Birds of Prey Programme of the EWT in May 2013, delegates were informed that a Biodiversity Management Plan for the Cape Vulture *Gyps coprotheres* will also be prepared.

8.1 Law reform

In general, the laws influencing the conservation status of South African eagles are not deemed to be in need of many reforms. Nonetheless a few aspects may be considered in this regard:

After publication of the new Red List, the status of some eagle species in the NEMBA lists should be changed to bring their legal status in line with the Red List status.

All the eagle species, and indeed all species of birds of prey, that are not identified in the NEMBA lists as Critically Endangered, Endangered, or Vulnerable, must be listed as Protected for the purposes of NEMBA.

While the Eskom-EWT Strategic Partnership yields satisfactory results without the intervention of biodiversity laws, an express obligation in law on Eskom and other suppliers to make their energy-generating and energy-transmitting structures safer for eagles and other birds appears to be desirable in the medium term.

8.2 Better application of the law

South Africa has highly advanced biodiversity legislation in place, but merely having the laws on the statute books will not save species. Compliance with and enforcement of the relevant laws should receive priority attention.

Many compulsory and enabling provisions of South African biodiversity legislation are not used optimally to ensure the survival of eagles and other birds of prey. The law creates a mechanism whereby Biodiversity Management Plans may be drawn up to work towards the continued survival of certain species. These plans may be initiated by Non-Government Organisations. It is highly desirable that such organisations should not wait for the state to act, but should seize this opportunity.

The law also makes research into conservation issues compulsory. It is vital to gain knowledge of the juvenile dispersal of several eagle species, including species with significant breeding populations in protected areas, in order to be able to plan and implement conservation activities to ensure that sufficient numbers of young birds reach sexual maturity and can contribute to reproduction.

The law makes education in respect of certain aspects of sustainable development compulsory. A component enlightening the public, with special emphasis on children, about the ecological value of eagles and other raptors, and the threats encountered by them in modern South Africa, should be included in such education.

Bibliography

Algotsson "Biological Diversity"

Algotsson E "Biological Diversity" in Strydom HA and King ND *Environmental Management in South Africa* 2nd ed (Juta Cape Town 2009) 97-125

Barnes (ed) *Important Bird Areas*

Barnes KN (ed) *The Important Bird Areas of Southern Africa* (BirdLife South Africa Randburg 1998)

Barnes "North-west Province"

Barnes KN "Important Bird Areas of the North-west Province" in Barnes KN (ed) *The Important Bird Areas of Southern Africa* (BirdLife South Africa Randburg 1998) 93-101

Barnes "Eastern Cape"

Barnes KN "Important Bird Areas of the Eastern Cape" in Barnes KN (ed) *The Important Bird Areas of Southern Africa* (BirdLife South Africa Randburg 1998) 197-218

Barnes *Red Data Book*

Barnes KN *The Eskom Red Data Book of Birds of South Africa, Lesotho and Swaziland* (BirdLife South Africa Randburg 2000)

Barnes "Western Cape"

Barnes KN "Important Bird Areas of the Western Cape" in Barnes KN (ed) *The Important Bird Areas of Southern Africa* (BirdLife South Africa Randburg 1998) 219-267

Barnes and Anderson "Northern Cape"

Barnes KN and Anderson MD "Important Bird Areas of the Northern Cape" in

Barnes KN (ed) *The Important Bird Areas of Southern Africa* (BirdLife South Africa Randburg 1998) 103-122

Barnes and Tarboton "Mpumalanga"

Barnes KN and Tarboton WR "Important Bird Areas of Mpumalanga" in Barnes KN (ed) *The Important Bird Areas of Southern Africa* (BirdLife South Africa Randburg 1998) 65-86

Barnes and Tarboton "Northern Province"

Barnes KN and Tarboton WR "Important Bird Areas in the Northern Province" in Barnes KN (ed) *The Important Bird Areas of Southern Africa* (BirdLife South Africa Randburg 1998) 47-63

Bekker *et al Innocent until Proven Guilty*

Bekker F *et al Innocent until Proven Guilty* (Endangered Wildlife Trust Parkview Undated)

Berruti "Southern Banded Snake Eagle"

Berruti A "Southern Banded Snake Eagle" in Harrison JA *et al The Atlas of Southern African Birds Volume 1: Non-Passerines* (BirdLife South Africa Johannesburg 1997) 200

Biggs 2001 *Africa Birds & Birding*

Biggs D "Eagles feast at quelea colony in Kruger" 2001 6(2) *Africa Birds & Birding* 16-17

Boshoff "Crowned Eagle"

Boshoff AF "Crowned Eagle" in Harrison JA *et al The Atlas of Southern African Birds Volume 1: Non-Passerines* (BirdLife South Africa Johannesburg 1997) 194-195

Boshoff "Martial Eagle"

Boshoff AF "Martial Eagle" in Harrison JA *et al The Atlas of Southern African Birds Volume 1: Non-Passerines* (BirdLife South Africa Johannesburg 1997) 192-193

Boshoff and Allan "Booted Eagle"

Boshoff AF and Allan DG "Booted Eagle" in Harrison JA *et al The Atlas of Southern African Birds Volume 1: Non-Passerines* (BirdLife South Africa Johannesburg 1997) 184

Burnham "Raptors and People"

Burnham WA "Raptors and People" in Newton I (ed) *Birds of Prey* (Merehurst Press London 1990) 170-188

Burns and Kidd "Administrative Law"

Burns Y and Kidd M "Administrative Law and Implementation of Environmental Law" in Strydom HA and King ND *Environmental Management in South Africa* 2nd ed (Juta Cape Town 2009) 222-268

Butchart (ed) *Eagles and Farmers*

Butchart D (ed) *Eagles and Farmers* (Endangered Wildlife Trust and Southern African Ornithological Society Johannesburg 1987)

Claassen "Spatial Planning"

Claassen PE "Spatial Planning, with the Western Cape Province as a Case Study" in Strydom HA and King ND *Environmental Management in South Africa* 2nd ed (Juta Cape Town 2009) 921-936

Couzens 2007 *SAJELP*

Couzens E "Costs, with pained regret: *Wildlife and Environmental Society of South Africa v MEC for Economic Affairs, Environment and Tourism, Eastern Cape, and Others* 2005 (6) SA 123 (E)" 2007 *SAJELP* 217-225

Craigie, Snijman and Fourie "Environmental Compliance"

Craigie F, Snijman P and Fourie M "Environmental Compliance and Enforcement Institutions" in Paterson A and Kotzé LJ *Environmental Compliance and Enforcement in South Africa* (Juta Cape Town 2009) 65 -102

Davies and Allan "Black Eagle"

Davies RAG and Allan DG "Black Eagle" in Harrison JA *et al The Atlas of Southern African Birds Volume 1: Non-Passerines* (BirdLife South Africa Johannesburg 1997) 175-177

Devine "International Environmental Law"

Devine DJ "International Environmental Law" in Strydom HA and King ND *Environmental Management in South Africa* 2nd ed (Juta Cape Town 2009) 126-164

Du Plessis *Fulfilment*

Du Plessis A *Fulfilment of South Africa's Constitutional Environmental Right in the Local Government Sphere* (Wolf Legal Publishers Nijmegen 2008)

Du Plessis "Understanding the Legal Context"

Du Plessis A "Understanding the Legal Context" in Paterson A and Kotzé LJ (eds) *Environmental Compliance and Enforcement in South Africa* (Juta Cape Town 2009) 11-40

Erens, Verschuuren and Bastmeijer "Climate Change"

Erens S, Verschuuren J and Bastmeijer K "Adaptation to Climate Change to Save Biodiversity: Lessons Learned from African and European Experiences" in Richardson BJ *et al* (eds) *Climate Law and Developing Countries* (Edward Elgar Cheltenham 2009) 206-231

Ferguson-Lees and Christie *Raptors of the World*

Ferguson-Lees J and Christie DA *Raptors of the World* (Christopher Helm London 2001)

Feris "Environmental Rights and *Locus Standi*"

Feris L "Environmental Rights and *Locus Standi*" in Paterson A and Kotzé LJ (eds) *Environmental Compliance and Enforcement in South Africa* (Juta Cape Town 2009) 129-151

Ferrer *Spanish Imperial Eagle*

Ferrer M *The Spanish Imperial Eagle* (Lynx Edicions Barcelona 2001)

Gargett *Black Eagle*

Gargett V *The Black Eagle* (Acorn Books Russel Friedman Books Randburg 1990)

Giliomee "Pesticides"

Giliomee JH "Pesticides" in Strydom HA and King ND *Environmental Management in South Africa* 2nd ed (Juta Cape Town 2009) 746-764

Glavovic 1988 *SALJ*

Glavovic PD "An introduction to wildlife law" 1988 *SALJ* 519-532

Glazewski "Bill of Rights and Environmental Law"

Glazewski J "The Bill of Rights and Environmental Law" in Glazewski J and Du Toit L (eds) *Environmental Law in South Africa* 3rd ed (LexisNexis Butterworths Durban 2013) 5.1-5.54

Glazewski "National Environmental Management Act"

Glazewski J "The National Environmental Management Act" in Glazewski J and Du Toit L (eds) *Environmental Law in South Africa* 3rd ed (LexisNexis Butterworths Durban 2013) 7.1-7.39

Glazewski "Wild Animals, Forests and Plants"

Glazewski J "Wild Animals, Forests and Plants" in Glazewski J and Du Toit L (eds) *Environmental Law in South Africa* 3rd ed (LexisNexis Butterworths Durban 2013) 14.1-14.45

Glazewski and Du Toit (eds) *Environmental Law*

Glazewski J and Du Toit L (eds) *Environmental Law in South Africa* 3rd ed (LexisNexis Butterworths Durban 2013)

Glazewski and Rumble "Administration and Governance"

Glazewski J and Rumble O "Administration and Governance" in Glazewski J and Du Toit L (eds) *Environmental Law in South Africa* 3rd ed (LexisNexis Butterworths Durban 2013) 6.1-6.21

Glazewski and Ruppel "International Environmental Law"

Glazewski J and Ruppel OC "International Environmental Law" in Glazewski J and Du Toit L (eds) *Environmental Law in South Africa* 3rd ed (LexisNexis Butterworths Durban 2013) 2.1-2.63

González and Margalida (eds) *Biología*

González LM and Margalida A (eds) *Biología de la Conservación del Aguila Imperial Ibérica (Aquila adalberti) / Conservation Biology of the Spanish Imperial Eagle (Aquila adalberti)* (Organismo Autónoma Parques Nacionales & Ministerio de Medio Ambiente y Medio Marino y Rural Madrid 2008)

Hall 2010 *SAJELP*

Hall J "Building the ethical dimension of the environmental right: the contribution of *The South African Predator Breeders Association v The Minister of Environmental Affairs and Tourism*" 2010 *SAJELP* 1-21

Henderson 2001 *SAJELP*

Henderson PGW "Some thoughts on distinctive principles of South African environmental law" 2001 *SAJELP* 139-184

Hockey, Dean and Ryan (eds) *Roberts Birds of Southern Africa*

Hockey PAR, Dean WRJ and Ryan PG (eds) *Roberts Birds of Southern Africa* 7th ed (John Voelcker Bird Book Fund Cape Town 2005)

Jenkins "Brown Snake Eagle"

Jenkins AR "Brown Snake Eagle" in Harrison JA *et al The Atlas of Southern African Birds Volume 1: Non-Passerines* (BirdLife South Africa Johannesburg 1997) 196-197

Jenkins "Ayres' Eagle"

Jenkins AR "Ayres' Eagle" in Harrison JA *et al The Atlas of Southern African Birds Volume 1: Non-Passerines* (BirdLife South Africa Johannesburg 1997) 187

Johnson, Barnes and Taylor "KwaZulu-Natal"

Johnson DN, Barnes KN and Taylor B "Important Bird Areas of KwaZulu-Natal" in Barnes KN (ed) *The Important Bird Areas of Southern Africa* (BirdLife South Africa Randburg 1998) 141-196

Katzner and Tingay "Eagle Diversity, Ecology and Conservation"

Katzner TE and Tingay RE "Eagle Diversity, Ecology and Conservation" in Tingay RE and Katzner TE (eds) *The Eagle Watchers* (Cornell University Press Ithaca 2010) 1-25

Kemp *Distribution and Status*

Kemp AC *The Distribution and Status of the Birds of the Kruger National Park* (The National Parks Board of Trustees Pretoria 1974)

Kemp *The Hornbills*

Kemp AC *The Hornbills Bucerotiformes* (Oxford University Press Oxford 1995)

Kemp and Kemp *Birds of Prey*

Kemp AC and Kemp MI *Birds of Prey of Africa and its Islands* (New Holland London 1998)

Kidd *Environmental Law*

Kidd M *Environmental Law* 2nd ed (Juta Cape Town 2011)

Lehmann "Voluntary Compliance Measures"

Lehmann K "Voluntary Compliance Measures" in Paterson A and Kotzé LJ *Environmental Compliance and Enforcement in South Africa* (Juta Cape Town 2009) 269-295

Loon 1995 *SAJELP*

Loon R "The effectiveness of the law in the conservation of birds of prey in South Africa" 1995 *SAJELP* 169-185

Lubbe "Straddling Borders"

Lubbe WD "Straddling Borders and Legal Regimes: The Case for Cooperative Transfrontier Biodiversity Conservation in the Southern African Development Community" in Fauchald OK, Hunter D and Xi W (eds) *Yearbook of International Environmental Law* Volume 18 2007 (Oxford University Press Oxford 2008) 126-152

Mramba 2004 *SAJELP*

Mramba SJ "The Peace Parks initiative: a breakthrough towards sustainable natural resource management in Southern Africa?" 2004 *SAJELP* 214-235

Müller "Environmental Governance"

Müller K "Environmental Governance in South Africa" in Strydom HA and King ND *Environmental Management in South Africa* 2nd ed (Juta Cape Town 2009) 68-96

Mundy *et al Vultures of Africa*

Mundy P *et al The Vultures of Africa* (Acorn Books Russel Friedman Books Randburg 1992)

Nel and Du Plessis 2001 *SAJELP*

Nel J and Du Plessis W "An evaluation of NEMA based on a generic framework for environmental framework legislation" 2001 *SAJELP* 1-37

Nel and Kotzé "Environmental Management"

Nel JG and Kotzé LJ "Environmental Management: An Introduction" in Strydom HA and King ND *Environmental Management in South Africa* 2nd ed (Juta Cape Town 2009) 1-33

Newman *Kruger National Park*

Newman K *Birds of Southern Africa: 1 Kruger National Park* (MacMillan Johannesburg 1980)

Newton *Population Ecology*

Newton I *Population Ecology of Raptors* (T & AD Poyser London 1979)

Newton "Human Impacts on Raptors"

Newton I "Human Impacts on Raptors" in Newton I (ed) *Birds of Prey* (Merehurst Press London 1990) 190-205

Ogada, Keesing and Virani 2011 *Ann NY Acad Sci*

Ogada DL, Keesing F and Virani MZ "Dropping dead: causes and consequences of vulture population declines worldwide" 2011 *Ann NY Acad Sci* 1-15

Paterson "Biodiversity, Genetic Modification and the Law"

Paterson A "Biodiversity, Genetic Modification and the Law" in Glazewski J and Du Toit L (eds) *Environmental Law in South Africa* 3rd ed (LexisNexis Butterworths Durban 2013) 13.1-13.54

Paterson "Protected Areas"

Paterson A "Protected Areas" in Glazewski J and Du Toit L (eds) *Environmental Law in South Africa* 3rd ed (LexisNexis Butterworths Durban 2013) 12.1-12.51

Paterson and Kotzé *Compliance and Enforcement*

Paterson A and Kotzé LJ *Environmental Compliance and Enforcement in South Africa* (Juta Cape Town 2009)

Penteriani, Ferrer and Delgado 2010 *Animal Conservation*

Penteriani V, Ferrer M and Delgado MM "Floater strategies and dynamics in birds, and their importance in conservation biology: towards an understanding of nonbreeders in avian populations" 2010 *Animal Conservation* 233-241

Percy FitzPatrick Institute of African Ornithology 2013 *African Birdlife*

Percy FitzPatrick Institute of African Ornithology "How the mighty are falling" 2013 1(5) *African Birdlife* 18

Rumsey "Terrestrial Wild Animals"

Rumsey AB "Terrestrial Wild Animals" in Strydom HA and King ND *Environmental Management in South Africa* 2nd ed (Juta Cape Town 2009) 394-424

Scholtz 2004a *SAJELP*

Scholtz W "Introduction of environmental co-operation agreements in South Africa" 2004 *SAJELP* 31-51

Scholtz 2004b *SAJELP*

Scholtz W "Co-operative and participatory governance via the implementation of environmental management co-operation agreements" 2004 *SAJELP* 183-194

Simmons "African Hawk Eagle"

Simmons RE "African Hawk Eagle" in Harrison JA *et al The Atlas of Southern African Birds Volume 1: Non-Passerines* (BirdLife South Africa Johannesburg 1997) 188-189

Simmons "Bateleur"

Simmons "Bateleur" in Harrison JA *et al The Atlas of Southern African Birds Volume 1: Non-Passerines* (BirdLife South Africa Johannesburg 1997) 202-203

Simmons "Lesser Spotted Eagle"

Simmons RE "Lesser Spotted Eagle" in Harrison JA *et al The Atlas of Southern African Birds Volume 1: Non-Passerines* (BirdLife South Africa Johannesburg 1997) 181

Simmons "Tawny Eagle"

Simmons "Tawny Eagle" in Harrison JA *et al The Atlas of Southern African Birds Volume 1: Non-Passerines* (BirdLife South Africa Johannesburg 1997) 178-179

Steyn *Birds of Prey of Southern Africa*

Steyn P *Birds of Prey of Southern Africa* (David Philip Cape Town 1982)

Steyn and Arnott *Hunters*

Steyn P and Arnott G *Hunters of the African Sky* (Struik Winchester Cape Town 1990)

Strydom "Protected Areas"

Strydom HA "Protected Areas" in Strydom HA and King ND *Environmental Management in South Africa* 2nd ed (Juta Cape Town 2009) 951-970

Strydom and King "Introduction"

Strydom HA and King ND "Introduction" in Strydom HA and King ND *Environmental Management in South Africa* 2nd ed (Juta Cape Town 2009) liii-lviii

Swift and Hannon 2010 *Biol Rev*

Swift TL and Hannon SJ "Critical thresholds associated with habitat loss: a review of the concepts, evidence, and applications" 2010 *Biol Rev* 35-53

Tanner *et al* 2004 *SAJELP*

Tanner RJ *et al* "Transfrontier Conservation Areas of Southern Africa and international law in the context of indigenous community involvement" 2004 *SAJELP* 167-182

Tarboton *Eagles*

Tarboton W *Eagles of the Transvaal* (Transvaal Nature Conservation Division 1979)

Tarboton and Allan *Status and Conservation*

Tarboton WR and Allan DG *The Status and Conservation of Birds of Prey in the Transvaal* (Transvaal Museum Pretoria 1984)

Tarboton, Kemp and Kemp *Birds of the Transvaal*

Tarboton WR, Kemp MI and Kemp AC *Birds of the Transvaal* (Transvaal Museum Pretoria 1987)

Temple "Conservation and Management"

Temple SA "Conservation and Management" in Newton I (ed) *Birds of Prey* (Merehurst Press London 1990) 190-205

Van der Linde "National Environmental Management Act"

Van der Linde M "National Environmental Management Act 107 of 1998 (NEMA)" in Strydom HA and King ND *Environmental Management in South Africa* 2nd ed (Juta Cape Town 2009) 193-221

Van der Linde "Regional Environmental Law"

Van der Linde M "Regional Environmental Law under the Auspices of the African Union (AU)" in Strydom HA and King ND *Environmental Management in South Africa* 2nd ed (Juta Cape Town 2009) 165-192

Van der Linde and Basson "Environment"

Van der Linde M and Basson E "Environment" in Woolman S and Bishop M (eds) *Constitutional Law of South Africa* 2nd ed (Juta Cape Town 2002-) 50:i-50:49

Register of legislation

Adjustment of Fines Act 10 of 1991
Animals Protection Act 71 of 1962
Bald and Golden Eagle Protection Act 16 USC 668
Bophuthatswana Nature Conservation Act 3 of 1973
Bophuthatswana Protected Areas Act 24 of 1987
Ciskei Nature Conservation Act 10 of 1987
Constitution of the Republic of South Africa, 1996

Fertilizers, Farm Feeds, Agricultural Remedies and Stock Remedies Act 36 of 1947

Foodstuffs, Cosmetics and Disinfectants Act 54 of 1972

Hazardous Substances Act 15 of 1973

Joint Resolution: To Provide Protection for the Golden Eagle Pub L 87-884, Oct 24 1962, 76 Stat 12466

Kwa-Zulu Heritage Act 10 of 1997

Kwa-Zulu Nature Conservation Act 29 of 1992

Kwa-Zulu Nature Conservation Management Act 9 of 1997

Limpopo Environmental Management Act 7 of 2003

Magistrates Court Act 32 of 1944

Mpumalanga Nature Conservation Act 10 of 1998

National Environmental Management Act 107 of 1998

National Environmental Management: Biodiversity Act 10 of 2004

National Environmental Management: Protected Areas Act 57 of 2003

National Parks Act 57 of 1976

Nature and Environmental Conservation Ordinance 19 of 1974

Nature Conservation Ordinance 8 of 1969

Nature Conservation Ordinance 12 of 1983

Nature Conservation Ordinance 15 of 1974

Northern Cape Nature Conservation Act 9 of 2009

Occupational Health and Safety Act 85 of 1993

Problem Animal Control Ordinance 26 of 1957

Western Cape Nature Conservation Board Act 15 of 1998

Register of government publications

Agreement on the Development of the Gaza-Kruger-Gonarezhou Transfrontier Park (2002)

Draft Bilateral Agreement on the Recognition of the Kgalagadi Transfrontier Park (GN 1810 in GG 19171 of 28 August 1998)

Draft Threatened or Protected Species List (Gen N 389 in GG 36375 of 16 April 2013)

Draft Threatened or Protected Species Regulations (Gen N 388 in GG 36375 of 16 April 2013)

GN R544, GN R545, and GN R546 in GG 33306 of 18 June 2010

Lists of Critically Endangered, Endangered, Vulnerable and Protected Species (GN R151 in GG 29657 of 23 February 2007)

Pesticide Management Policy for South Africa (Gen N 1120 in GG 33899 of 24 December 2010)

Threatened or Protected Species Regulations (GN R152 in GG 29657 of 23 February 2007)

Register of international and regional instruments

African Convention on the Conservation of Nature and Natural Resources (1968)

Convention Concerning the Protection of the World Cultural and Natural Heritage (1972) *(World Heritage Convention)*

Convention on Biological Diversity (1992)

Convention on International Trade in Endangered Species of Wild Fauna and Flora (1973) *(*CITES*)*

Convention on Persistent Organic Pollutants (2001) *(Stockholm Convention)*

Convention on the Conservation of Migratory Species of Wild Animals (1979) *(Bonn Convention)*

Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade (1998) (*Rotterdam Convention)*

Convention on Wetlands of International Importance (1971) *(Ramsar Convention)*

Revised African Convention on Nature and Natural Resources (2003)

Register of case law

BP Southern Africa (Pty) Ltd v MEC for Agriculture, Conservation and Land Affairs 2004 5 SA 124 (W)

Director, Mineral Development, Gauteng Region and Sasol Mining (Pty) Ltd v Save the Vaal Environment 1999 2 SA 709 (SCA)

Fuel Retailers Association of Southern Africa v Director General: Environmental Management, Department of Agriculture, Conservation and Environment, Mpumalanga Province 2007 6 SA 4 (CC)

Hichange Investments (Pty) Ltd v Cape Produce Co (Pty) Ltd t/a Pelts Products 2004 2 SA 393 (E)

HTF Developers (Pty) Ltd v The Minister of Environmental Affairs and Tourism 2006 5 SA 512 (T)

MEC, Department of Agriculture, Conservation and Environment v HTF Developers (Pty) Ltd 2008 2 SA 319 (CC)

MEC for Agriculture, Conservation, Environment & Land Affairs v Sasol Oil (Pty) Ltd 2006 5 SA 483 (SCA)

Minister of Public Works v Kyalami Ridge Environmental Association 2001 3 SA 1151 (CC)

Wildlife and Environmental Society of Southern Africa v MEC for Economic Affairs, Environment and Tourism, Eastern Cape 2005 6 SA 123 (E)

Register of internet sources

Anderson Date Unknown www.andersonafrica.co.za

Anderson M Date Unknown *Raptors and Farm Reservoirs* www.andersonafrica.co.za/pamphlets/Raptors_and_farm_reservoirs.pdf [date of use 15 Mar 2013]

BirdLife International Date Unknown www.birdlife.org

BirdLife International Date Unknown *Important Bird Areas* www.birdlife.org/action/science/sites/ [date of use 15 Mar 2013]

BirdLife South Africa Date Unknown www.birdlife.org

BirdLife South Africa Date Unknown *Homepage* www.birdlife.org/za [date of use 15 Mar 2013]

Convention on Migratory Species 2008 www.cms.int

Convention on Migratory Species 2008 *Memorandum of Understanding on the Conservation of Migratory Birds of Prey in Africa and Eurasia (the Raptors MoU)*www.cms.int/species/raptors/ [date of use 15 Mar 2013]

DEAT Date Unknown gis.deat.gov.za

DEAT Date Unknown *Register of Protected Areas of South Africa* gis.deat.gov.za/paregister [date of use 15 Mar 2013]

DEAT 2004 www.speciesstatus.sanbi.org

DEAT 2004 *Species Listing 1(11)* www.speciesstatus.sanbi.org/pdf/ Newsletter%20Issue%202.pdf [date of use 15 Mar 2013]

Eskom 2010 financialresults.co.za

Eskom 2010 *Crowned Eagle Case Study* financialresults.co.za/ 2010/eskom_ar2010/026.html [date of use 15 Mar 2013]

EWT Date Unknown www.ewt.org.za

EWT Date Unknown *Eskom-EWT Strategic Partnership* www.ewt.org.za/ programmes/WEP/eskom.html [date of use 15 Mar 2013]

EWT 2011 www.ewt.org.za

EWT 2011 *Annual Conservation Report* www.ewt.org.za/eBooks/ConReport %20eBook/ book.swf [date of use 15 Mar 2013]

Global Raptor Information Network Date Unknown www.globalraptors.org

Global Raptor Information Network Date Unknown *Search Species Database* www.globalraptors.org/grin/SpeciesLookup.asp [date of use 15 Mar 2013]

International Ornithologist's Union 2013 www.worldbirdnames.org

International Ornithologist's Union 2013 *World Bird List* www.worldbirdnames.org [date of use 15 Mar 2013]

IUCN 2013 www.iucnredlist.org

IUCN 2013 *Red List of Threatened Species* www.iucnredlist.org [date of use 15 Mar 2013]

Jais 2009 europeanraptors.org

Jais M 2009 *Interview with Britta Gronewold from NABU/Birdlife Germany about the Conservation of the Lesser Spotted Eagle in Germany* europeanraptors.org/interviews/interview_lesser_spotted_eagle_germany_nabu_09_2009.html [date of use 15 Mar 2035]

Jenkins *et al* 2011 www.ewt.org.za

Jenkins AR *et al* 2011 *Best Practice Guidelines for Avian Monitoring and Impact Mitigation at Proposed Wind Energy Development Sites in Southern Africa*

www.ewt.org.za/programmes/WEP/pdf/BAWESG_Monitoring%20guidelines_Version%201_04042011.pdf [date of use 15 Mar 2013]

Kruger to Canyons Biosphere Reserve Date Unknown www.kruger2canyons.org

Kruger to Canyons Biosphere Reserve Date Unknown *Homepage* www.kruger2canyons.org [date of use 15 Mar 2013]

López-López *et al* 2011 www.plosone.org

López-López P *et al* "Solving man-induced large-scale conservation problems: the Spanish Imperial Eagle and power lines" 2011 *PLoS ONE* 6(3) www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0017196 [date of use 15 Mar 2013]

Peace Parks Date Unknown www.peaceparks.org

Peace Parks Date Unknown *Homepage* www.peaceparks.org [date of use 15 Mar 2013]

SABAP 2 Date Unknown sabap2.adu.org.za

Southern African Bird Atlas Project 2 (SABAP 2) Date Unknown *Homepage* sabap2.adu.org.za [date of use 15 Mar 2013]

Sánchez, González and Barov 2008 ec.europa.eu

Sánchez B, González L and Barov B 2008 *Action Plan for the Spanish Imperial Eagle (Aquila Adalberti) in the European Union* ec.europa.eu/environment/nature/conservation/wildbirds/action_plans/docs/aquila_adalberti.pdf [date of use 15 Mar 2013]

SEO / BirdLife Spain Date Unknown www.seo.org

SEO / BirdLife Spain Date Unknown *Homepage* www.seo.org [date of use 15 Mar 2013]

UNESCO Date Unknown whc.unesco.org

UNESCO Date Unknown *World Heritage Centre* whc.unesco.org/en/statesparties/za [date of use 15 Mar 2013]

UNESCO Date Unknown www.unesco.org

UNESCO Date Unknown *Man and the Biosphere Programme* www.unesco.org/new/en/natural-sciences/environment/ecological-sciences/man-and-biosphere-programme/ [date of use 15 Mar 2013]

Waterberg Biosphere Reserve Date Unknown www.waterbergbiosphere.org

Waterberg Biosphere Reserve Date Unknown *Homepage* www.waterbergbiosphere.org [date of use 15 Mar 2013]

Wisch 2002 www.animallaw.info

Wisch RF 2002 *Detailed Discussion of the Bald and Golden Eagle Protection Act* www.animallaw.info/articles/ddusbgepa.htm [date of use 15 Mar 2013]

List of abbreviations

Ann NY Acad Sci	Annals of the New York Academy of Sciences
Biol Rev	Biological Reviews
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
DDT	Dichlor-diphenyl-trichlor-ethane
DEAT	Department of Environmental Affairs and Tourism
Eskom	Electricity Supply Commission of South Africa
EWT	Endangered Wildlife Trust
IBA	Important Bird Area
IUCN	International Union for the Conservation of Nature
NEMA	National Environmental Management Act
NEMBA	National Environmental Management: Biodiversity Act
NEMPA	National Environmental Management: Protected Areas Act
Raptors MoU	Memorandum of Understanding on the Conservation of Migratory Birds of Prey in Africa and Eurasia
SAJELP	South African Journal of Environmental Law and Policy
SALJ	South African Law Journal
SANBI	South African National Biodiversity Institute
TOPS	Threatened or Protected Species
UNESCO	United Nations Educational, Scientific and Cultural Organization